# University of Massachusetts at Boston

# 1983-1985 Graduate Studies Bulletin

# Graduate Studies Bulletin 1983-1985

The purpose of this publication is to provide information about the University of Massachusetts at Boston to persons who work and study at the University, to persons who may be interested in applying for admission, and to parents, teachers, counselors, and the general public. THIS PUBLICATION IS NEITHER A CONTRACT NOR AN OFFER TO MAKE A CONTRACT. While every effort has been made to insure the accuracy of the information in this publication, the University reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed in this publication. The information in this publication is provided solely for the convenience of the reader, and the University expressly disclaims any liability which may otherwise be incurred.

Because certain graduate programs described in this publication are newly established at the University, certain courses offered by these programs are listed pending University approval.

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The University of Massachusetts at Boston is accredited by the New England Association of Schools and Colleges, which accredits schools and colleges in the six New England states. Membership in the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

Publications Office

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# Foreword

# Foreword

### The University

The University of Massachusetts is the state university of the Commonwealth. It was founded in 1863 under provisions of the Morrill Land Grant Act passed by the United States Congress one year earlier. The University of Massachusetts has three campuses, at Amherst, at Boston, and at Worcester.

The University of Massachusetts at Boston was founded in 1964 to provide the opportunity for superior undergraduate and graduate education at moderate cost to the people of the Commonwealth and particularly of the greater Boston area. Since its founding the University has demonstrated a deep commitment to serving students and the community. The urban setting permits the University to offer a broad array of resources—educational, professional, and cultural—unique in American higher education. These resources, in conjunction with the University's active concern for the student's individual development, enable the student to earn an excellent education.

Life at the University of Massachusetts at Boston is as rich and varied as the City of Boston itself. As a student in Boston one can easily visit world-famous museums, theaters and concert sites, or enjoy a cruise to the islands of Boston Harbor. As a student on campus, one can readily attend plays, musical recitals and films, use outstanding specimen collections and facilities for research, navigate one of the University's sailboats, or conduct research on the islands of the harbor and at the University's Nantucket field station. The access and opportunity offered by the University of Massachusetts at Boston are mirrored by the access and opportunity of Boston and New England.

Situated on a finger of land jutting into the picturesque aquatic environment of Dorchester Bay and Old Harbor, the main or Harbor Campus of the University of Massachusetts at Boston is easily accessible by public transportation and private automobile. A campus shuttle bus links the Harbor Campus with the Downtown Campus at 100 Arlington Street in Park Square, also easily accessible by public transportation. Another campus shuttle bus links the Harbor Campus with the JFK/UMass Station (formerly Columbia Station). The Harbor Campus consists of seven buildings on approximately 100 acres of land surrounded on three sides by ever-changing seascapes. The John F Kennedy Library and State Archives Building (now under construction) adjoin the University. The physical growth of the campus has been carefully planned to meet future needs of the citizens of the Commonwealth.

### Graduate Programs

The Deputy Provost for Graduate Studies and Research, in collaboration with the Graduate Council at the University of Massachusetts at Boston, exercises overall review and supervision of graduate programs and provides guidance in the development of new programs as well as the maintenance of standards for existing programs. Each of the University's three colleges—the College of Arts and Sciences, the College of Management, and the College of Public and Community Service as well as its Institute for Learning and Teaching—cooperatively support graduate education in accordance with the highest national professional standards.

As part of its commitments to serving citizens of the Commonwealth, the University now offers a graduate program at the doctoral level in environmental science and graduate programs at the master's level in American civilization, applied physics, applied sociology, bilingual education, biology, business administration, chemistry, counselor training, critical and creative thinking, English, English as a second language, history, human services, mathematics, public affairs, school psychology, special education, educational administration, education (elementary and secondary), and reading. Special tracks in these master's programs include applied marine ecology, archival methods, historical archaeology, and computer science. A Certificate of Advanced Graduate Study (CAGS) is offered in counselor training, school psychology, and educational administration. Additional graduate offerings are being developed including master's programs in liberal studies and nursing.

For information about graduate programs of the University of Massachusetts at Amherst, consult the University of Massachusetts at Amherst *Graduate School Bulletin*. Information about graduate programs in medicine and related fields may be found in the *Medical School Catalog* of the University of Massachusetts at Worcester.

# Academic Calendar, 1983-1985

**Fall Semester, 1983**

| | |
|---|---|
| Add/Drop Day | August 30 (Tu) |
| Classes Begin | August 31 (Wed) |
| Labor Day (holiday) | September 5 (Mon) |
| Add/Drop Period Ends | September 9 (Fri) |
| Columbus Day (holiday) | October 10 (Mon) |
| Pass/Fail Deadline | October 19 (Wed) |
| Course Withdrawal Deadline | November 2 (Wed) |
| Veterans' Day (holiday) | November 11 (Fri) |
| Registration for Spring '84 | November 21-December 2 (Mon-Fri) |
| Thanksgiving Recess | November 24-November 27 (Thur-Sun) |
| Classes Resume | November 28 (Mon) |
| Classes End | December 9 (Fri) |
| Reading Period | December 10-December 15 (Sat-Thu) |
| Final Exam Period | December 16-December 22 (Fri-Thu) |
| Emergency Snow Day | December 23 (Fri) |

**Spring Semester, 1984**

| | |
|---|---|
| Add/Drop Day | January 13 (Fri) |
| Classes Begin | January 17 (Tu) |
| Add/Drop Period Ends | January 24 (Tu) |
| Washington's Birthday (holiday) | February 20 (Mon) |
| Pass/Fail Deadline | March 6 (Tu) |
| Spring Vacation | March 11-March 18 (Sat-Sun) |
| Classes Resume | March 19 (Mon) |
| Course Withdrawal Deadline | March 27 (Tu) |
| Patriots' Day (holiday) | April 23 (Mon) |
| Registration, Fall '84 | April 16-April 27 (Mon-Fri) |
| Classes End | April 30 (Mon) |
| Reading Period | May 1-May 6 (Tu-Sun) |
| Final Exam Period | May 7-May 11 (Mon-Fri) |
| Commencement | May 20 (Sun) |

**Fall Semester, 1984**

| | |
|---|---|
| Add/Drop Day | August 28 (Tu) |
| Classes Begin | August 29 (Wed) |
| Labor Day (holiday) | September 3 (Mon) |
| Add/Drop Period Ends | September 7 (Fri) |
| Columbus Day (holiday) | October 8 (Mon) |
| Pass/Fail Deadline | October 18 (Thu) |
| Course Withdrawal Deadline | November 1 (Thu) |
| Veterans' Day (holiday) | November 12 (Mon) |
| Registration for Spring '85 | November 19-November 30 (Mon-Fri) |
| Thanksgiving Recess | November 22-November 25 (Thu-Sun) |
| Classes Resume | November 26 (Mon) |
| Classes End | December 10 (Mon) |
| Reading Period | December 11-December 16 (Tu-Sun) |
| Final Exam Period | December 17-December 21 (Mon-Fri) |
| Emergency Snow Day | December 24 (Mon) |

**Spring Semester, 1985**

| | |
|---|---|
| Add/Drop Day | January 11 (Fri) |
| Classes Begin | January 14 (Mon) |
| Martin Luther King Day | January 15 (Tu) |
| Add/Drop Period Ends | January 22 (Tu) |
| Washington's Birthday (holiday) | February 18 (Mon) |
| Pass/Fail Deadline | March 1 (Fri) |
| Course Withdrawal Deadline | March 15 (Fri) |
| Spring Vacation | March 16-March 24 (Sat-Sun) |
| Classes Resume | March 25 (Mon) |
| Patriots' Day (holiday) | April 22 (Mon) |
| Registration, Fall '85 | April 15-April 26 (Mon-Fri) |
| Classes End | April 29 (Mon) |
| Reading Period | April 30-May 5 (Tu-Sun) |
| Final Exam Period | May 6-May 10 (Mon-Fri) |
| Commencement | May 19 (Sun) |

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# Admissions

All graduates of institutions of recognized standing who hold Bachelor's degrees are eligible to apply for admission to Graduate Studies. Admission is only for the semester requested and cannot be guaranteed for a later date. To obtain application forms, write to the Office of Graduate Admissions and Records, University of Massachusetts at Boston, Harbor Campus, Boston, MA 02125. Applications for admission, with supporting documents, should be sent to the Office of Admissions. Applications and accompanying documents must be received by April 15 for September enrollment, and by November 15 for January enrollment. Applications received after these dates can be considered only on the basis of available space. Note: each application must be accompanied by a non-refundable application fee ($18 for residents of Massachusetts, $25 for non-residents).

Admission to Graduate Studies does not automatically indicate approval of candidacy for an advanced degree. Such candidacies are subject to specific requirements defined by the individual graduate programs. Graduate Program Directors must approve all degree candidacies.

Applicants can be admitted to Graduate Studies as:

*Matriculated, Degree-Seeking Students* fully qualified to pursue studies toward graduate degrees; or as

*Non-matriculated, Special Graduate Students* not admitted to graduate programs but allowed to enroll in graduate-level courses. Upon review of their graduate level work, special students may become matriculated. Exception: special graduate students may not enroll in the MBA program.

### General Admission Requirements

1. A minimum cumulative grade point average in undergraduate work of 2.75.
2. A Bachelor's degree or the equivalent from any college or university of recognized standing.
3. Official transcripts of all previous work (graduate and undergraduate). An applicant should request the registrar of each college previously attended to send two copies of each transcript directly to the Office of Admissions. A final transcript showing that the Bachelor's degree has been awarded must be received before the applicant can enter graduate studies.
4. Three letters of recommendation from persons in the field of the applicant's academic major at the institution most recently attended. An applicant who last attended an academic institution more than five years before applying may, with the approval of the program for which application is made, substitute other references.
5. Submission of Graduate Record Examination (GRE) scores, if available, for both aptitude and advanced tests. (Some programs require these scores; see individual program admission requirements.) Addresses of GRE test centers are available from the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey 08540.

The programs listed below require applicants to submit the appropriate test scores. Applicants to programs not mentioned below are strongly urged, but not required, to submit scores of the Graduate Record Exam (GRE).
Biology—GRE
Business Administration—GMAT
Counselor Training—MAT
Environmental Science—GRE
Public Affairs—GRE
School Psychology—GRE or MAT
Special Education—MAT

6. Acceptance by both the graduate program for which application is made and the Deputy Provost for Graduate Studies and Research.

### Additional Requirements for Foreign Applicants

1. The completed application, together with the non-refundable application fee of $25 (in US currency) must be received at least six months before the date on which the student wishes to begin school.
2. Transcripts and other certified copies of academic records must be sent to the Office of Graduate Admissions and Records with English translations validated by an official public translator.
3. Persons from countries where English is not generally spoken are required to take the Test of English as a Foreign Language (TOEFL). This requirement may be waived if the applicant has attended an English-speaking college or university for a period of at least two academic years. In all other cases, the test must be taken; and in most cases, a score of 550 or above is required. (Applicants scoring from 500 through 549 who otherwise meet admission requirements may be admitted with the special permission of the program which they wish to enter.) To obtain information about the Test of English as a Foreign Language, write to The TOEFL Program, Box 899, Princeton, New Jersey 08540, USA.
4. A Declaration and Certification of Finances must be completed, based on an estimate of institutional costs and living expenses. Accurate answers to all questions on the form must show that the total funds available to the student to cover his or her full period of study are at least equal to the total estimates of institutional costs and living expenses. A foreign student must pay the non-resident tuition rate for his or her full period of study. A Certificate of Eligibility (form I-20A), based on Department of Immigration procedures for checking the student's financial resources, is issued by the University to the student after the student has been officially admitted to the University.

Note: The University provides foreign students with information about immigration regulations, as well as counseling in other matters. For further information, contact the UMass/Boston Office of International Exchange.

### Readmission

Application for readmission is required of:

1. Any applicant who has previously been admitted to the University of Massachusetts at Boston but did not enroll on the entrance date stated in the acceptance letter.
2. Any graduate student at this University who has been accepted for one degree program and wishes to apply for another program or degree.
3. Any degree candidate who has not enrolled in courses or paid the tuition and required fees.

### Summer Session

Selected graduate courses are offered during the summer. The Summer School operates on a fee-assisted, self-supporting basis: courses are offered when sufficient student demand is demonstrated. Information regarding course offerings, tuition, and fees, may be found in the Summer School *Bulletin,* available from the Continuing Education Office (956-1000).

### Graduate Study by Faculty and Staff Members

Members of the University faculty at the rank of assistant professor or higher who wish to redirect their professional interests may, under special circumstances, earn a graduate degree from the University. The Associate Provost for Graduate Studies may permit eligible faculty to become degree candidates subsequent to a favorable recommendation from both the appropriate academic dean and department head, assurance that no conflict of interest will occur and that the University's best interests will be served. The degree may not be earned in the department in which the candidate is a faculty member. Full-time staff members may not carry more than seven credits per semester; tuition will be waived for all credits. Further information is available from the Office of Graduate Studies.

### Tuition Waivers for Employees of the Commonwealth

Full-time employees of the Commonwealth of Massachusetts, with certain exceptions, are eligible for tuition remission upon acceptance into a graduate program at the University of Massachusetts at Boston. To obtain tuition remission, an employee must submit a completed and signed "Certificate of Eligibility for Tuition Remission" form with his or her tuition bill each semester. For further information, please contact the Admissions Office at UMass/Boston, 929-7109.

# Tuition, Fees, and Payments

# Tuition, Fees, and Payments

### Important Reminders

Students are not considered registered unless their bills have been paid in full. No time or deferred payments are allowed by the University.

The financial requirements of the University, changing costs, state and legislative action, and other circumstances may require adjustments in the tuition and fees stated or estimated below. The University reserves the right to make such adjustments in these charges as may from time to time be required by the Board of Regents or the Board of Trustees. Students acknowledge this reservation by submitting applications for admission or by registering for classes.

Tuition and application fees are charged at different rates for residents and non-residents of Massachusetts. Prospective students should be sure to refer to the information under "Residency Status" at the end of this section of the bulletin.

### Program Fee

Graduate students who are not enrolled for any course credits but are matriculated in a program must pay a program fee each semester (excluding summer session) for continuous registration until the degree for which the student has been accepted has been formally awarded. The program fee for doctoral students is $50 per semester and for master's degree and CAGS students $25 per semester. Any student who does not pay this fee by the last day of the Add/Drop Period and later seeks readmission or applies for graduation, shall pay the accumulated program fees plus a readmission fee of $25. Students seeking readmission must file a written request with the Deputy Provost for Graduate Studies and Research. This request must be endorsed by the appropriate Graduate Program Director.

### Application Fee

Each application for admission to the University from a student seeking a degree must be accompanied by a *non-refundable* application fee payment of $18.00 for "qualified" Massachusetts residents, $25.00 for non-residents. Checks should be made payable to *The University of Massachusetts, Boston,* and sent to the Admissions Office along with completed application forms.

### Lab Fees

Certain courses entail the payment of lab fees which support course-related activities that would not otherwise be made available. Students enrolled in such courses accept the responsibility to pay the fee.

### Commencement Fee

There is a $30 Commencement Fee requisite for graduation. This fee must be paid by the time a student files for graduation.

**Graduate Tuition and Fees Per Semester, 1983-1984**

| **Tuition** | **per credit** | **maximum** |
|---|---|---|
| Resident | $60.00 | $717.00 |
| Non-resident | $157.50 | $1885.00 |
| **Mandatory Fees** | **1-6 credits** | **7 or more credits** |
| Student Activities | 11.50 | 23.00 |
| Health Service | 22.50 | 45.00 |
| Identification Card* | 2.00 | 2.00 |
| Athletics | 12.50 | 25.00 |
| **Optional Fees** | | |
| Medical Insurance* | 125.00 | 125.00 |
| Mass PIRG | 2.00 | 2.00 |
| **Mandatory Fees Charged Once Only** | | |
| Recreation** | 30.00 | 30.00 |
| Commencement** | 30.00 | 30.00 |

*Charged one (1) semester per year.
**Charged one (1) time only (per degree program).

# Tuition, Fees, and Payments

### Cost of Attendance

A budget for the costs of graduate study at UMass/Boston may be compared to any general budget familiar to most people, such as a household or personal budget. Within that budget, a number of factors may change from time to time due to rising labor costs, changes in the costs of goods and services, and other influences.

The sample "institutional budget" below is an estimate of the average cost of attendance and is used by the University when individual applications for financial aid are considered.

Sample Institutional Budget for Graduate Study, 1983-1984.

| **Expenses** | **Dependent*** | **Independent** |
|---|---|---|
| (Academic Year) | (9 month period) | (12 month period) |
| Tuition (full-time, in-state)** | $1,434.00 | $1,434.00 |
| Activities Fee | 46.00 | 46.00 |
| Athletics Fee | 50.00 | 50.00 |
| ID Card | 2.00 | 2.00 |
| Health Fee | 90.00 | 90.00 |
| MassPIRG (optional) | 4.00 | 4.00 |
| Medical Insurance (optional) | 125.00 | 125.00 |
| Room and Board Allowance | 1,100.00 | 4,580.00 |
| Books and Supplies | 290.00 | 290.00 |
| Personal Expense Allowance | 675.00 | 895.00 |
| Transportation | 475.00 | 630.00 |
| **Totals** | **4,291.00** | **8,146.00** |

*Students in this category must be considered legal dependents by the Internal Revenue Service.
**Out-of-state full-time tuition for two semesters is $3,770.00.

### Explanation of Charges

All charges are set by the Board of Regents or the Board of Trustees.

Tuition (In-state Rate)

As a state institution, the University of Massachusetts at Boston offers a low rate of tuition to all students entering from the Commonwealth. Eligibility for admission under the low residential rate is determined according to a policy established by the Board of Trustees and detailed under "Residency Status" at the end of this section of the catalog.

Mandatory Fees

The *Student Activities Fee* is used to support programs and activities beneficial to students, such as recognized student organizations and the University Cultural Events Committee. The *Health Fee* supports the University Health Service and its programs. The *Athletics Fee* supports the University Athletics Program. The *Identification Card Fee* is used to support the cost of making identification cards (with photographs); all continuing students are charged this fee each fall, and all new or re-entering students are charged the fee before the first semester of attendance.

Optional Fees

Charges or optional fees appear on the bills of degree-seeking students; but these students *may choose not to pay optional fee charges, providing they notify the University before payment for these charges is due.* Students choosing to pay the *Medical Insurance Fee* will join an insurance plan which provides coverage for health, medical, and surgical care during a twelve month period for injuries or illness during the school year, holidays, and summer vacation. Students who register for the fall semester have only one opportunity to enter or reject this program each year; it is offered on spring semester bills to new spring registrants only. Special Students who wish coverage through the program must pay the fee before the end of the add/drop period. Dependents of married students are not covered under this plan. Coverage for dependents is available at additional cost; students wishing such coverage should inquire at the University Health Service. The *Mass PIRG Fee* supports the Massachusetts Public Interest Research Group, a student-interest advocacy group.

Mandatory Fees Charged Once Only

The *Commencement Fee* is assessed each student in the fall semester of his or her commencement year (commencement exercises and events are intended to be self-supporting). The *Recreation Fee,* an additional fee set by the Board of Trustees, is used to support the University's athletics facilities and recreational programs. It is charged of each degree-seeking student in his or her first semester as a degree-seeking student. It may not be cancelled or refunded unless the student withdraws before the first day of classes.

# Payment Information

### The Bursar's Office

The Bursar's Office handles payments of tuition and fees, and distributes checks to students receiving refunds or University financial aid. (The Bursar's Office will begin to distribute these checks about five weeks after the start of each semester. Checks must be picked up by their recipients at the Bursar's Office.) Location: second floor of Administration Building. Telephone: 929-7150, ext. 2341. Teller hours: weekdays, 9:00 am to 3:30 pm.

### Payment Policy

University policy requires that no registration be considered complete until the semester charges are paid in full. Charges are computed on the basis of courses/programs for which students are registered. The initial bills are sent in July (for the fall semester) and in December (for the spring semester) to all students who have already registered.

Late registrants are billed after the add/drop period. Note: Special Students must pay in full at the time of registration. Follow-up billings will be made periodically, reflecting any additional charges, payments, or credits that have occured within the semester period. Each student must pay all charges in full prior to the due date indicated on the initial bill to avoid late charges or cancellation of registration and financial aid. No time or deferred payments are allowed by the University.

Overdue accounts will be considered sufficient cause for cancellation of registration, as University regulations prohibit final registration, graduation, or granting of credit for any student whose account with the University is unpaid. *Any delinquent accounts will be cause for Administrative Withdrawal and must be paid prior to readmission to the University.*

Unpaid accounts will be referred for collection action.

### Important Reminder for Financial Aid Recipients

It is the responsibility of all students receiving financial aid from sources other than the University to see that the University is adequately notified before bills are prepared. Credits for known scholarships are reflected in the bills; credit cannot be given for a scholarship award unless the Bursar has been presented with proof from the donor that the award has been made. If a student's bill does not show credit for an award the student should contact the source of the scholarship to be sure that such evidence has been, or will be, presented to the Bursar.

### Late Payment Fee

Any student who does not make full payment of his or her charges by the date specified on the bill in which the charges are initially listed will be required to pay a late payment fee of $25.00.

### Late Registration Fee

Any continuing degree-seeking student who does not register during the Advance Registration Period (usually near the end of the semester preceding the semester for which he or she is registering) will be required to pay a late registration fee of $25.00.

Any new, readmitted, or special student who does not register by the end of the add/drop period of the semester for which he or she is registering will be required to pay the $25.00 late registration fee.

### Tuition and Fee Refunds

A student who voluntarily withdraws from the University for any reason before the sixth week of a semester will be granted a refund or reduction of tuition and fees according to the schedule below: *Note: Failure to attend does not constitute withdrawal.* To withdraw, a student must confer with an advisor in the Graduate Studies Office and bring a *completed withdrawal form* from this Office to the Office of Graduate Admissions and Records, which will establish the effective date of withdrawal.

After the Add/Drop period, no refunds will be given for course load reductions. Students withdrawing completely from the University before the sixth week of a semester, and receiving grades of "W" for all courses, will receive refunds. No refunds will be disbursed in other cases where grades of "W" are given. No refunds will be given in cases where academic credit has been awarded.

If a financial aid recipient withdraws from the University, his or her refund will first be applied to the reimbursement of scholarship or loan funds (up to the full amount of the scholarship or loan); any remaining amount will then be refunded to the student or parent. A student who is suspended or expelled from the University for disciplinary reasons forfeits all right to a refund. A student who has not paid in advance will be liable for any amounts due after the reduction in charges.

### Refund/Reduction Schedule

| Academic Year | Amount Refunded If Advance Payment Has Been Made | Amount Owed If No Payment Has Been Made |
|---|---|---|
| A. Before the beginning of the semester (Add/Drop Day) | 100% | 0% |
| B. Within the first two weeks of the semester | 80% | 20% |
| C. During the third week | 60% | 40% |
| D. During the fourth week | 40% | 60% |
| E. During the fifth week | 20% | 80% |
| F. After the fifth week | no refund | 100% |

# Residency Status

These rules and regulations shall apply to the classification of students at the University of Massachusetts as Massachusetts or non-Massachusetts residents for tuition purposes.

**Section I. Definitions**

1. **Academic Period**—a term or semester in an academic year or a summer session, as prescribed by the Board of Trustees or under their authority.

2. **Continuous Attendance**—enrollment at the University for the normal academic year in each calendar year, or the appropriate portion or portions of such academic year as prescribed by the Board of Trustees or under their authority.

3. **Emancipated Person**—a person who has attained the age of 18 years, or if under 18 years of age, (a) whose parents have entirely surrendered the right to the care, custody and earnings of such person and who no longer are under any legal obligation to support or maintain such person; or (b) a person who is legally married; or (c) a person who has no parent. If none of the aforesaid definitions applies, said person shall be deemed an "unemancipated person."

4. **Parent**—(a) the person's father and mother, jointly; (b) if the person's father is deceased, the person's mother; if the person's mother is deceased, the person's father; (c) if a legal guardian has been appointed by a court having jurisdiction, the legal guardian; (d) if neither the father nor mother is living and no legal guardian has been appointed, the person who then stands *in loco parentis* to the person; (e) if the father and mother are divorced, separated or unmarried, the parent who has been awarded legal custody of the person; if legal custody has not been awarded, the parent with whom the person lives.

   With respect to any adopted student the word "adoptive" should be inserted before the words "father" and "mother" wherever used.

5. **Reside, residency or resident**—shall refer to domicile, i.e., a person's true, fixed and permanent home or place of habitation, where he or she intends to remain permanently or for an indefinite time.

**Section II. Classification**

1. For the purpose of assessing tuition and fees, each student shall be classified as a "Massachusetts resident" or a "Non-Massachusetts resident." A person shall be classified as a Massachusetts resident if he or she (or the parent of an unemancipated student) shall have resided in the Commonwealth of Massachusetts for twelve months immediately preceding the first day of classes of the academic period for which the student enrolls with the intent of making Massachusetts his or her true residency.

*Note:* To be eligible to pay tuition at in-state rates, students must be citizens or permanent residents of the United States.

**Section III. Determination of Residency**

1. *Proof of Residency*

   (a) Each case will be decided on the basis of all facts submitted with qualitative rather that quantitative emphasis. No given number of factors is required for residency, since the determination in each case is one of the subjective intention of the person to reside indefinitely in Massachusetts. No single index is decisive. The burden of proof rests on the student seeking classification as a Massachusetts resident.

   (b) The following shall be primary indicia of residency:

      (1) Residency of parents, having custody, within Massachusetts;
      (2) Certified copies of federal and state income tax returns;
      (3) Permanent employment in a position not normally filled by a student;
      (4) Reliance on Massachusetts sources for financial support;
      (5) Former residency in Massachusetts and maintenance of significant connections there while absent.

   (c) The following shall be secondary indicia of residency, to be considered of less weight than the indicia listed above in subsection (b):

      (1) Birth certificate;
      (2) Motor vehicle registration and/or operator's license;
      (3) Voting or registration for voting;
      (4) Property ownership;
      (5) Continuous physical presence in Massachusetts during periods when not enrolled as a student;
      (6) Military home of record;
      (7) All other material of whatever kind or source which may have a bearing on determining residency.

2. *Proof of Emancipation*
   A student asserting that he or she is an emancipated person shall furnish evidence to support such assertion. Such evidence may include:

   (a) Birth certificate or any other legal document that shows place and date of birth;

   (b) Legal guardianship papers—court appointment and termination must be submitted;

   (c) Statements of the person, his or her parent(s), guardian(s), or others certifying no financial support;

   (d) Certified copies of federal and state income tax returns filed by the person and his or her parent(s);

   (e) Where none of the foregoing can be provided, an affidavit of the emancipated person in explanation thereof and stating fully the grounds supporting the claim of emancipation.

# Residency Status

3. *Presumptions, etc.*

(a) Residency is not acquired by mere physical presence in Massachusetts while the person is carrying on a course of study at the University.

(b) A person having his or her residency elsewhere than in Massachusetts shall not be eligible for classification as a Massachusetts resident for tuition purposes, except as herein provided.

(c) Any person who is registered at the University as a Massachusetts resident shall be eligible for continued classification as a Massachusetts resident for tuition purposes (until attainment of the degree for which he or she is enrolled) during continuous attendance at the institution.

(d) Unless evidence to the contrary appears, it shall be presumed by the approving authority of the University that:

(1) The spouse of any person who is classified or is eligible for classification as a "Massachusetts resident" is likewise eligible for classification as a "Massachusetts resident." This provision will not apply in the case of a spouse in the United States on a non-immigration visa.
(2) A person who is not a citizen of the United States must meet the same requirements for establishing residency in Massachusetts as are required of a citizen. In addition, a non-citizen of the United States, if required to hold a visa, must hold the type of visa which permits establishment of Massachusetts residency. Parole refugee status will be considered a type of visa which permits establishment of Massachusetts residency.

(e) A person does not gain or lose in-state status solely by reason of his or her presence in any state or country while a member of the Armed Forces of the United States.

(f) Notwithstanding the twelve-month period provided for in section II.1 above, the following persons shall be presumed to be Massachusetts residents unless the contrary clearly appears:

(1) A member of the Armed Forces of the United States who is stationed in Massachusetts on active duty pursuant to military orders; his or her spouse and dependent students.
(2) Full-time faculty, professional staff, and classified staff employees of the University of Massachusetts system and their spouses and dependent students.

(g) Notwithstanding the provisions of section II.1, any new student certified by his or her state for participation in the New England Regional Student program shall be assessed tuition and fees as if he or she were a Massachusetts resident.

**Section IV. Reclassification**

1. Any emancipated student classified as a "Non-Massachusetts resident" who has established a residency in Massachusetts, which residency shall have been of twelve months' duration by the first day of classes of the academic period for which he or she registers, shall be eligible for reclassification as a "Massachusetts resident" effective in such academic period.

2. Any unemancipated student classified as a "Non-Massachusetts resident" whose parent has established a residency in Massachusetts, which residency shall have been of twelve months' duration by the first day of classes of the academic period for which said student registers, shall be eligible for reclassification as a "Massachusetts resident" effective in such academic period.

**Section V. Appeals**

Any student or applicant who is unwilling to accept the ruling relative to his or her residency classification or who wishes to seek reclassification may submit a Residency Appeal Form to the University Residency Appeal Committee. The decision by this Committee is final and may not be appealed further.

In any case where the Office of Graduate Admissions and Records is unable to make an initial determination based on the evidence submitted, the student or applicant may be required to submit a Residency Appeal Form before being classified as a resident or a non-resident.

**Section VI. Penalties for Misrepresentation**

Misrepresentation in or omission from any evidence submitted with respect to any fact, which if correctly or completely stated would be grounds to deny classification as a Massachusetts resident, shall be cause for exclusion or expulsion from or other disciplinary action by the University.

# Financial Aid

# Financial Aid

### General Information

For information on where and how to find sources of financial assistance for graduate students, different forms of financial aid and their respective features, and a general, realistic picture of graduate financial aid today, students should obtain a copy of *Financial Aid for Graduate Studies* from the UMass/Boston Office of Career Services (Telephone: 929-7125).

Through its Office of Student Financial Management, the University administers financial aid funds from several sources. Each aid program has specific eligibility standards: a student may be eligible for some kinds of aid, and not for others. Through the application process, students learn whether or not they are eligible for aid and, if they are, the kinds and amounts of aid for which they are eligible. The process is designed to give the Office of Student Financial Management all the information needed for making equitable awards. The process works properly only if applicants cooperate by carefully following instructions, providing all information requested, and meeting all deadlines. Current information and application forms are available from the Office of Student Financial Management (Telephone: 929-7210).

NOTE: The eligibility of graduate students for assistance through certain programs is not determined by the Office of Student Financial Management. These programs are identified by asterisks in the listing of "Types of Aid Available."

### Eligibility

To be considered for financial aid awarded through the Office of Student Financial Management, a student must:

1. be a citizen or permanent resident of the United States,
2. be enrolled in a degree program,
3. be registered for at least six credits of course work,
4. demonstrate financial need,
5. maintain satisfactory academic progress.

### Application Procedure and Deadlines

To apply for financial aid through the Office of Student Financial Management, an incoming graduate student must:

1. complete a Financial Aid Form (FAF),
2. submit income verification (e.g., notarized copies of 1040 tax forms),
3. and, if the student received financial aid as an undergraduate, submit a Financial Aid Transcript (available from the financial aid office of the school last attended).

Although no specific deadline has been established for incoming graduate students, such students should apply for financial aid and admission at the same time. Returning graduate students should apply for aid by the end of March. Applications made after the end of March will be processed on a first come, first served basis, and awards will be made, when applications are completed, on the basis of available funds.

### How Awards are Made

The Office of Student Financial Management determines the amounts of awards by following this formula:

**Applicable Institutional Budget**
minus **Student and/or Family Contribution**
= **Student's Financial Need**

An *institutional budget* is a projection of a typical student's school and living expenses for a nine or twelve month period. The Office establishes such budgets each year in several categories (according to students' living situations) and reviews these budgets at intervals. See the sample institutional budget under "Cost of Attendance" above. The amount of a *student and/or family contribution* is determined by an analysis of the information on a student's Financial Aid Form. The Office of Student Financial Management will take the student's *financial need* into account in awarding a financial aid "package." "Packages" are combinations of grants, scholarships, loans, and part-time job opportunities. The Office cannot guarantee that it will be able to meet a student's total "need" or offer the particular kind of aid desired by the student.

### Types of Aid Available to Graduate Students

NOTE: The eligibility requirements, amounts of awards, and level of funding for the programs described below are subject to change.

Federal Programs

1. *National Direct Student Loans (NDSL)* are made to assist students who have demonstrated financial need. Each loan is made through the Office of Student Financial Management. Students must sign promissory notes before the loans can be processed. The loans must be repaid at 5% interest starting six months after graduation or termination of enrollment. A total of $25,000 may be borrowed to support undergraduate and/or graduate education.

2. The *College Work-Study Program (CWS)* provides help to needy students through earnings from employment. Work-study awards are made by the Office of Student Financial Management. Under the work-study program, the Office arranges for jobs on and off campus. Students may work part-time while school is in session and full-time during intersession and the summer. Many departments and offices at the University employ work-study students throughout the year; while school is not in session students may be able to secure jobs with non-profit agencies off campus. The amount of a student's work-study award is a maximum limit and not a guarantee that the student will earn that amount. Students must earn awards through hourly employment. These funds cannot be credited to tuition bills.

3. *The Guaranteed Student Loan Program (GSLP or HELP)* is operated through banks and other private lending institutions. Payments on GSLP loans must start six months after graduation or termination of enrollment. The annual interest rate of 9% will be paid by the federal government while the student is in school and during the six month grace period. GSLP loans are made by private lending institutions and not by the University. The amounts of the loans range from $500 to $2500 per academic year.

   *Note:* Special (non-degree-seeking) students are eligible for these loans.

4. *Loans for Parents* of dependent students may be made by banks and other private lending institutions. Such loans may be in amounts of up to $3,000 per academic year. Parents must begin to repay the loans 60 days after disbursement.

# Financial Aid

University of Massachusetts Programs

1. *Senior Citizen Tuition Waivers* are available to students over 60.
2. *National Guard Tuition Waivers* are available to members in good standing of the National Guard.
3. *Massachusetts Veterans' Tuition Waivers* may be available to students who entered military service while residents of Massachusetts. Information may be obtained from the Veterans' Affairs Office.
4. *Graduate Assistantships in Teaching and Research* are offered through the various graduate programs. Stipend amounts vary with the type of work and the amount of time required. For further information, students should contact the Office of Graduate Studies or the appropriate Graduate Program Director.
5. *Tuition Waivers for Graduate Assistants* are granted only to assistants who receive stipends equal to at least half the current standard annual assistantship stipend and who are appointed for a period of at least one full semester. Certain fees are not waived.
6. *Tuition Waivers for Foreign Students* are available to as many as 10% of the foreign students in degree programs. For further information contact the Office of International Exchange.
7. *Tuition Waivers for Full-time State College and Community College Faculty* have been authorized by the Board of Trustees for faculty members of Massachusetts State Colleges and Regional Community Colleges, providing the faculty members have been serving full-time before taking courses at the University and afterward return to full-time teaching at the schools from which they came. When an eligible faculty member wishes to take courses at the University, his or her college president should write a memorandum certifying that he or she is a full-time faculty member; that memorandum must be submitted to the Bursar's Office when the semester's tuition bill is to be paid. Such faculty members must be accepted for admission by Graduate Studies prior to any registration.
8. *Faculty and Staff Members of the University* taking graduate courses are eligible for waivers of four credits' tuition and all general fees.
9. *All Full-time Employees of the Commonwealth of Massachusetts* are eligible for tuition remission. Please see "Tuition Waivers for Employees of the Commonwealth" in the "Admissions" section of this publication.

**Other Educational Benefits**

Benefits for financing higher education are also available from such government agencies as the Social Security Administration, the Veterans' Administration, The Massachusetts Rehabilitation Commission, and the Massachusetts Department of Welfare. Students are urged to seek out any benefits for which they may be eligible by checking with the appropriate agencies.

**New England Regional Student Program**

Residents of other New England states may pay the resident tuition rate under the New England Regional Student Program, but only if admitted to a degree program at this University that is not available at their home state university's graduate school. Inquiries should be directed to the Office of Graduate Admissions and Records.

# Facilities

### Library

The University Library holds a book collection numbering more than 370,000 volumes and currently subscribes to more than 3,000 domestic and foreign journals and newspapers. The main library, the Joseph P Healey Library, is centrally located on the Harbor Campus plaza, easily accessible from the bridge that connects all buildings on campus. It has extensive bibliography and reference holdings, a growing collection of government documents and an art and music library that includes a Special Collections room and listening carrels for the audio collection. At 100 Arlington Street on the Park Square campus there is a small library specifically designed for the students and faculty of CPCS. Its holdings are concentrated in the areas of psychology, sociology, law and political science.

The collections of both libraries are listed in the public catalog of the Healey Library, which holds a record of every book, journal, government document and audio tape held by the University Library. Together these collections support the graduate and undergraduate programs of the university.

UMass/Boston is a member of the Greater Boston Consortium of Academic and Research Libraries, which includes the libraries of Boston College, Boston University, Brandeis University, MIT, Northeastern University, Tufts University, UMass/Amherst, and Wellesley College. Graduate students may use materials on site at any of these libraries and are eligible for cards granting borrowing privileges at these institutions. They may also borrow books from any other public institution of higher education in Massachusetts under the WILL (Walk-in InterLibrary Loan) program, and may borrow books from other libraries in Massachusetts and elsewhere through the Healey Library's Interlibrary Loan department.

### Academic Computing Services

UMass/Boston's Academic Computing Services provide a broad spectrum of computer-related services to students, faculty and staff on campus. These services include: time sharing and batch access to several computing systems, user consulting and programming services, instructional workshops, user documentation development and distribution, software systems development and maintenance, user account maintenance and distribution, and the user interface to the UMass/Amherst Campus Academic Computing Facility.

Student and faculty researchers in Boston are provided with remote time-sharing and remote batch access to a Control Data Corporation CYBER 175/720 multimainframe computing system located at the Amherst Campus of the University. The Boston Center maintains ninety-two low-speed (300-1200 baud) asynchronous time-sharing links and three synchronous (4800 baud) remote batch HASP links to the CYBER-175.

The CYBER is a large scientific computing system that runs under the CDC Network Operating System (NOS). The current hardware configuration of the CYBER-175 includes: twenty peripheral processing units, 262K words (60 bits) of main memory, 512K words of extended semiconductor memory, over four billion bytes of shared on-line disk storage, five nine-track tape drives (800/1600/6250 bpi), and one seven-track tape drive (556/800 bpi). The system also features extensive libraries of mathematical, statistical, plotting, and utility modules.

Additional information concerning services, hardware, and software available at the University Computing Center in Boston can be obtained from the Center's Consulting Office in the Healey Library Building, room G2-030, 929-7608.

### Athletic Center

The Catherine Forbes Clark Athletic and Recreation Center at the Harbor Campus opened its doors to the University community early in 1981. The new facility includes a gymnasium, a skating rink, and a competition-sized pool, all with ample seating for spectators, as well as gymnastic, weight-training, and exercise rooms, and a dance studio. The building provides a new home for the varsity basketball and ice hockey teams and the basis for expansion into other intercollegiate varsity sports. Outdoor tennis courts and athletic fields will soon be constructed adjacent to the Clark Center. Outdoor tennis courts, a 400-meter track, and athletic fields will open in the spring of 1983. (929-7575)

### Media Center

UMass/Boston's Media Center provides a full range of audio-visual equipment and consultation for instructional and other University-related purposes. This equipment is located in each of the colleges in areas designated as Media Labs. The Media Labs provide access to display and mini-production audio, video, and mixed media equipment on a University-wide scheduled basis. In addition, adjoining college language laboratories are available for use in conjunction with foreign language courses. The tapes used in laboratory sessions are closely correlated with classroom studies and many are produced within the Media Center. The Center's sophisticated media production facility, located in the Healey Library, is equipped with a computer-assisted video editing system and a multitrack audio studio.

### John F Kennedy Library

The John F Kennedy Presidential Library, a public institution for education and research, stands on the coastal edge of the Harbor Campus. The IM Pei-designed facility was established to preserve and make available the documents and memorabilia of President Kennedy and his contemporaries in politics and government. Its archival collection includes approximately twenty-eight million pages of documents, six and a half million feet of film, and over one hundred thousand still photographs. The JFK Library is linked to the University by a series of educational programs allowing students and their instructors to share in its rich resources.

### State Archives

The archives of the Commonwealth of Massachusetts will be housed adjacent to the Harbor Campus in a new structure scheduled for completion in 1985. Members of the University community will benefit greatly from this rich resource, whose research materials cover three and a half centuries.

# Programs and Services

# Programs and Services

### Athletics and Recreation

The opening of the Clark athletic center has signalled an expansion of UMass/Boston's athletics and recreation program. In addition to the Clark center, the Harbor Campus offers a range of recreational facilities—including a gymnasium, weight training rooms, and handball and squash courts—housed in other buildings. The facilities are open to students, faculty, and staff, as well as to community residents, according to schedules issued each semester.

Outdoor facilities include two athletic fields marked for football, soccer, softball, volleyball, and horseshoes. The University's sailing dock moors ten Mercury sailboats and eight rowing dories available for use during the spring, summer and fall. A swimming test is required of all who wish to participate in water sports. For sailing, a helmsman test is administered by the sailing instructor; once the test is passed, boats may be taken out whenever available.

Information about schedules and locations may be obtained from the Athletics Department (929-7575).

### Bookstore

Located in the Administration Building, the bookstore carries all textbooks required for courses, a complete line of art and school supplies, and gift items. It also carries a selection of paperbacks. Special orders can be made for almost any other book in print. The bookstore also buys and sells used books. It is open Monday through Friday, 9 am-5 pm (929-7250).

### Child Care

The University operates two licensed Child Care Centers for children of University students, faculty, and staff. The toddler program is for children between the ages of eighteen months and three years; the pre-school program is for children from three to five years old. Teachers in these Centers work together with student teachers, work-study students, and volunteers to encourage children to become aware of themselves and their potential, and to develop their capacities for self-reliance, cooperation, initiative, and responsibility. There are places for 60 children in the program. Costs are moderate, and financial assistance is available for eligible families (929-7290).

### Disabled Student Center

The Resource and Counseling Center for Disabled Students serves physically disabled students and those funded through the Massachusetts Rehabilitation Commission through offices at both the Harbor Campus and the Downtown Campus. The Center offers counseling for individual students, peer counselor training, reading and tutorial services, assistance with University billing procedures, referrals for additional assistance, and places for students to discuss with staff members and peers their educational progress and any related problems. A tape library, a Braille library, typewriters, and Braille equipment are available at the Harbor Campus. The Center attempts to meet the needs of any student who requests its services (929-8240).

### Campus Ministry

The Campus Ministry is an interfaith chaplaincy service actively involved in the spiritual and human development of students, faculty, and staff. Protestant, Catholic, and Jewish chaplains offer liturgical, educational, and spiritual programs. Among these programs are daily prayer, mid-week liturgies, scripture seminars, study groups, individual counseling, spiritual direction, the Bread for the World Study/Action Group, the Bible Study and Fellowship program, and retreats. The Campus Ministry also operates a lending library of theological and spiritual books. (Telephone: ext. 7908).

### Career Services

The Office of Career Services is a resource center through which undergraduates, graduate students, and alumni receive counseling and assistance in conducting job campaigns. The Job Skills Bank operated by the Office brings distinguished alumni to campus to discuss ideas and prospects for employment. The Job Employee Matching System (JEMS) is a computerized service offering students and employers easy access to each other by matching applicants with appropriate positions. Additional services include individual counseling and group seminars, a career resource library, and binders containing current information about job opportunities. (Telephone: ext. 7125).

### University Health Service

The primary goal of the University Health Service is the maintenance of good health among UMass/Boston students. To that end, the service provides care for the acute, episodic, and short-term problems common among students. For health problems requiring more sophisticated or long-term care, the service maintains a referral list of carefully screened and selected general practitioners, psychotherapists, and community health care facilities.

As a registration requirement, every student must submit a report of a recent physical examination and a medical history to the Health Service. Through a careful review of these reports, the Health Service is alerted to any pre-existing medical problems that may require immediate attention or changes in an academic or athletic program. All medical reports are privileged and confidential; access to a particular student's file may be obtained only with the student's written permission.

The Health Service is supported by mandatory student health fees. Optional supplemental health insurance coverage is available for those medical and surgical services not provided on campus. Further information on the student insurance plan may be obtained through the Health Service.

The main Health Service facility is located at the Harbor Campus. The clinical staff there is comprised of three full-time nurse practitioners, one part-time nurse in general medicine, and one full-time nurse practitioner specializing in gynecology. Physicians, including a psychiatrist, are available by appointment. A Satellite Clinic of the Health Service, administered by a full-time nurse practitioner and an assistant, operates at the Downtown Center. Appointments with physicians may also be arranged at this clinic. (Telephone, Harbor Campus Center: ext. 7111.)

# Programs and Services

**Student Information Services (INFO)**

INFO is the one-stop communications network and informational resource/referral service at the Harbor Campus. Committed to gathering and disseminating information throughout the University community, INFO provides a multitude of communications-related services and serves as the public relations arm for the Division of Student Affairs. Two INFO centers are maintained for registration and referral of information about University events and activities. INFO logs campus information, composes *The Weekly Bulletin,* the weekly calendar of events and University notices, stamps all posters for display on campus, distributes University publications and announcements, and provides a telephone "hotline" information service, a daily listing of University activities; and maintains display areas for University publicity. Lost and Found is a joint effort of INFO and the Department of Public Safety. INFO will book tours of the University for prospective students and the general public. (Telephone: ext 7708.)

**Student Activities**

The extracurricular life of the University centers on activities sponsored primarily through the Office of Student Activities and funded by the Student Activities Trust Fund. Established by the University Board of Trustees, the fund is maintained by mandatory student activities fees, and is administered by a professional staff following recommendations made by an elected student committee.

The University Student Activities Committee (SAC) is composed of 24 students elected by the student body as either collegiate or at-large representatives. The SAC is governed internally by a Chairperson, Secretary, and Treasurer who are elected to their posts by the committee itself. The SAC also has four standing subcommittees, each made up of six of the 24 members. These subcommittees deal with community action, media and publications, cultural events, and recognized student organizations (clubs). The entire committee holds responsibility for overseeing, coordinating, and allocating funds for student activities, both on and off campus.

In addition to sponsoring the clubs listed below, the SAC maintains the Harbor Gallery, the Pub Club, the University radio station, (WUMB FM, 91.9), a photo offset composition and printing shop (HarborType), and a Ticket series for reduced rates at Boston area cultural and athletic events. Further information about current program offerings is available from the Student Activities Office.

Student clubs receiving funding include, but may not necessarily be limited to, the following:

Accounting and Finance Academy

Advocacy Resources for Modern Survival (ARMS)

African Student Union

American Marketing Association

American Production and Inventory

Anthropology Society

Arabic Student Union

Armenian Club

Art Club

Asian-American Club

Bilingual Bicultural Club

Caribbean Students Association

Chemistry Club

Chess Club

College Republicans

Committee Against Racism

Conditions in Communist Countries Presented (C.C.C.P.)

Consultants Connection

Dance Theatre

Draft Info Group

Drama Club

Earth Science Club

East Asian Studies

Economics Society

Fencing Club

Fire Science Club

Football Club

French Club

Geography Club

Gerontology Association

German Club

Graduate Students Science Club

Health Administration Club

Hispanic Cultural Association

History Club

International Socialist Organization

Irish Historical Society

Karate Club

Latin American Student Organization

Law Workers Association

Lesbian Gay Center

Linguistics Club

Management Science Club

Marxist Study Group

Massachusetts Public Interest Research Group (Mass PIRG)

Meateaters Club

Multi-Media Club

Native American Support Group

Nichireu Shoshu of America

Norlantic Reefcombers

Philosophy Club

Physical Education Club

Physics Club

Poetry Workshop

Politics Society

Portuguese Cultural Center

Prayer Group

Pre-law Society

Psychology Club

Rock 'n Roll Club

Reserve Officer Training Corps (ROTC)

Sailing Club

Science Fiction Club

Ski Club

Spanish Club

Students for a Free and United Ireland

Student Nurses Association

Students Against Sexual Harrassment

Tennis Club

Ujima

UMass Badminton Association

UMass Friends of Spartacus Youth League

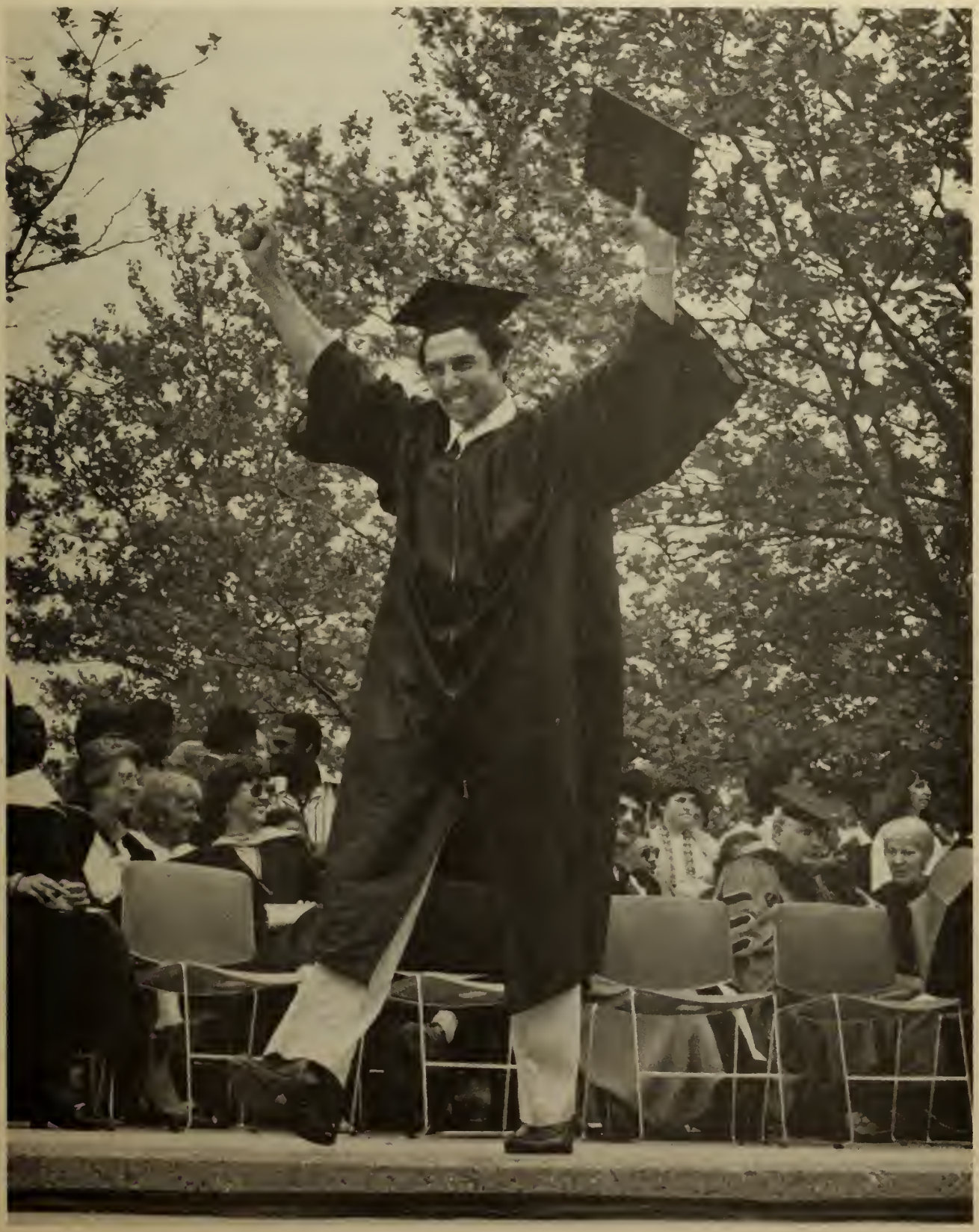
UMass Skydiving Club

UMass Veterans Union

Urban Students Club

Vietnamese Nationalist Student Club

# Degree Requirements and General Regulations



# Degree Requirements and General Regulations

All requirements for any advanced degrees to be awarded at a given degree-granting period (February, May, September) must be completed by the appropriate deadline. The completed Eligibility for Degree forms must be submitted to the Graduate School by the specified deadline so that all the candidate's credentials can be certified before the degree is actually awarded. Refer to the *Graduate Handbook* for further detailed guidance in the preparation and completion of a program of study.

**Master's Degree Requirements**

The basic requirements for the Master's degree are given below. Students should consult the individual program descriptions for further requirements. Refer to the *Graduate Handbook* and the *Typing Guidelines for Master's Theses and Doctoral Dissertations* for further information on pursuing and completing a program of study. These two publications are available from the Graduate Program Director of each graduate program.

1. Each degree candidate must earn at least thirty graduate credits. Up to six credits of grade B or better may be transferred from other institutions with the consent of the graduate program. Up to six credits may be counted from upper division undergraduate courses with the consent of the graduate program.

2. The thesis and general examination may or may not be required by the graduate program, but, if required, they shall be under the supervision of a committee recommended by the program. The thesis committee will consist of members of the faculty chosen with the approval of the Deputy Provost for Graduate Studies and Research, and should be appointed as soon as possible after the student's first graduate registration. As soon as the student arrives on campus, and prior to the appointment of a thesis committee, an advisory or guidance committee should be appointed for the student from among the members of the faculty. Once the student has selected his or her thesis topic, the guidance committee may serve as the thesis committee, although the memberships of these two committees are not necessarily the same. No more than ten credits may be earned by means of a thesis.

   The thesis must be approved by all members of the thesis committee and the Graduate Program Director, and reviewed by the Deputy Provost for Graduate Studies and Research. The general examination (not limited to the thesis) is conducted by an examining committee of at least three members of the faculty. A majority of the members of the examining committee must recommend the awarding of the degree. If a student offers a thesis, special problems courses shall be limited to six credits.

3. Foreign language requirements are determined by each Master's degree program.

4. Course credits used by the student for fulfilling the requirements for a Master's degree may not be used by the student for fulfilling the requirements for any other Master's degree at this University.

**PhD Requirements**

The Graduate Program Director is responsible for the following, all within the guidelines of Graduate Studies and the candidate's graduate studies program:

a. Approving the candidate's program of courses.

b. Approving the procedure for satisfying the language requirements, if any.

c. Arranging for the candidate's preliminary comprehensive examination.

d. Reporting fulfillment of the above requirements to the Office of Graduate Studies.

As soon as the student has passed the preliminary comprehensive examination, the Graduate Program Director of the candidate's program shall recommend to the Deputy Provost for Graduate Studies and Research the names of at least three members of the faculty to serve as a Dissertation Committee. At least two of the faculty so nominated shall be from the candidate's major department.* One member shall be appointed from outside the candidate's department.* The outside member shall, without exception, be a voting member of the Dissertation Committee.

It shall be the responsibility of the Dissertation Committee to approve the dissertation project, to supervise its execution, and to arrange for the final examination of the student. All members of the Dissertation Committee must tentatively approve the dissertation before the final oral examination is scheduled and agree that it is time for this examination to be held. Attendance at the final oral examination is open to all members of the candidate's major department and any member of the Faculty. However, only members of the Dissertation Committee may cast votes. A unanimous vote of the Dissertation Committee is required for the student to pass the final oral examination. If, at the final examination, two members of the Dissertation Committee cast negative votes, the candidate will be informed that he or she has not passed the examination. If there is but one negative vote, the degree will be held up pending action of the Graduate Council.

The doctoral degree is conferred upon graduate students who have met the following requirements:

1. Successful completion of all courses and projects specified by the adviser/guidance committee within the guidelines of the candidate's school/department graduate studies program.

2. Satisfactory completion of foreign language requirements under Graduate Council policy. (These requirements are listed in this *Bulletin*.)

3. Passing a preliminary comprehensive examination conducted by the major department. Any student who fails the comprehensive examination may, at the discretion of the examining committee, be permitted a second and final examination.

4. Submission of an approved dissertation prospectus to the Office of Graduate Studies at least seven months prior to the Final Oral Examination (defense of dissertation).

5. Preparation of a dissertation satisfactory to the Dissertation Committee and the Office of Graduate Studies.

6. Passing a final (at least partly oral) examination conducted by the Dissertation Committee. This examination shall be primarily upon, but not necessarily limited to, the candidate's dissertation. This examination shall be scheduled when all the the Dissertation Committee members and the Office of Graduate Studies agree that the dissertation is sufficiently complete to stand defense; approval of the dissertation, passing the defense, and/or recommending the degree are not implied by scheduling this examination.

7. Registration for the required number of dissertation credits (refer to the *General Regulations* section, item number 12).

*Refers to administrative entity for which degree has been authorized (i.e., department, program, etc.).

# Degree Requirements and General Regulations

8. A minimum of one academic year as a full-time graduate student in residence at the University. The residence year must consist of two consecutive semesters, either a fall-spring or a spring-fall sequence. In order to qualify for full-time status, a student must be enrolled for nine or more credits per semester, either in regular graduate courses or for Doctoral Dissertation credits (899)/or in some combination of both. To be in residence a student must be physically present on the campus for some part of each week during the semester (although the student need not reside or be domiciled in the Boston area); and may not be employed on more than a one-half time basis during the semester, either within or outside the University.

9. The Statute of Limitations (total time period in which to earn the PhD) is six calendar years from acceptance into the program, or four years if the student already has a Master's degree in the same field. A part-time student may be granted an additional year upon petition to his or her graduate program director and approval by the Office of Graduate Studies.

10. Graduate students who request a leave of absence must petition their Graduate Program Director who, in turn, provides justification for the request to the Deputy Provost for Graduate Studies and Research. If the Deputy Provost grants a leave of absence, the student's statute of limitations is extended appropriately. However, graduate students on leave of absence must maintain continuous enrollment by paying the Program Fee every semester during their leave.

**General Regulations**

1. Graduate Course Numbering System of the University of Massachusetts at Boston
   500-599 Combined graduate/undergraduate
   600-699 Master's or first-year graduate
   700-899 Doctoral and advanced graduate
   900-999 Post-terminal degree

   *Fixed Numbers (Graduate/Undergraduate)*
   590 Experimental courses
   591-594 Seminars, variable titles
   595-596 Independent Study
   597 Special topics, variable titles

   *Fixed Numbers (Graduate)*
   690, 790, 890 Experimental courses
   691-694, 791-794, 891-894 Seminars, variable times
   695-696, 795-796, 895-896 Independent Study, variable titles
   697, 797, 897 Special topics, variable titles
   698 Practicum
   699 Master's thesis
   899 Doctoral dissertation

2. "More Restrictive" Program Regulations
   Any Graduate Studies regulation or procedure shall *not* preclude separate degree programs from developing specific regulations or procedures that are *more* restrictive or selective.

3. Re-taking Courses
   Unless otherwise noted a course may be taken more than once but may be offered only once toward degree requirements.

4. Grading Policy
   The University uses a system of letter grades which are equivalent to numerical "quality points" according to the following list:

| Letter Grade | Quality Point Equivalent |
|---|---|
| A | 4.00 |
| A – | 3.75 |
| B | 3.00 |
| B – | 2.75 |
| C | 2.00 |
| F | .00 fail |
| Inc (see 11. below) | Incomplete |
| Pass | Passing, under Pass/Fail Option (see below) |
| Y (see 12. below) | Interim grade in a declared yearlong course |

   The quality points for each grade are multiplied by the number of credits for the course, and the totals for all courses added to arrive at the student's cumulative quality point figure. The cumulative quality point figure is divided by the number of cumulative credit hours carried to arrive at the cumulative quality point average.

   Graduate students enrolled in undergraduate courses are governed by the Graduate Studies grading policy.

5. Academic Dismissal
   A student who in any two semesters, consecutive or otherwise, has semester averages of below 2.8 is subject to academic dismissal upon recommendation of the graduate program director to the Deputy Provost for Graduate Studies and Research.

6. Academic Average for Graduate Degrees
   In the courses a student is offering to satisfy degree requirements, a minimum standard for satisfactory work is a 3.0 average.

7. Satisfactory or Reasonable Progress
   A student must make satisfactory or reasonable progress toward completion of a degree program within the Statute of Limitations for that degree. A student who is not making satisfactory or reasonable progress is subject to termination upon the recommendation of the graduate program to the Deputy Provost for Graduate Studies and Research.

8. Maximum Credit Load
   A graduate student may register for up to 15 credits during the fall and spring semesters and nine credits during the Summer Session. Any student who wishes to register for more than the maximum credit load must secure written permission from the graduate program director in the major department and the Graduate Office's approval.

9. Full/Half/Part-Time Student Credits
   Graduate Studies defines full time as nine or more credits, part time as eight or fewer credits, and for loan deferments, half time as six or more credits. Doctoral candidates may be considered full time students regardless of the number of dissertation credits for which they register, provided the major department certifies that they are working full time on research.

# Degree Requirements and General Regulations

10. Withdrawal Regulations
    a. To add, drop, or change a course, students must obtain the written approval of the instructor concerned and their faculty adviser. Signed cards are to be filed with the Office of Registration and Records.

    b. During the "Add/Drop Period"—usually five days at the beginning of each semester—a student may add, drop or change courses without penalty; that is, no entry will be made on the student's permanent record. *No courses may be added after this period.* Signed cards are to be filed with the Office of Graduate Admissions and Records.

    c. After period (b) but before the withdrawal deadline noted for each term in the academic calendar a student may drop courses with a grade of W provided approval is obtained from the instructor and the student's major adviser.

    d. Students may withdraw from the University before the last day of classes of a semester, although the effective date of withdrawal is that on which all forms are completed, signed and returned to the Office of Graduate Admissions and Records. Students withdrawing receive a W for each course in which they are enrolled. Failure to complete a withdrawal form will result in the recording of the grade of F (Failure) for all courses at the end of the term. To withdraw from the University, a student must do the following:

    - Consult with a member of the Graduate Studies advising staff, who will provide and sign a withdrawal form.
    - Receive clearance from any University office in which financial charges have been accrued.

11. Incompletes
    A student can obtain credit for an "incomplete" only by finishing the work of the course before the end of one calendar year from the time of enrollment in that course. At the end of that period, if a grade is not submitted an F (Failure) will be recorded. The initiative in arranging for the removal of an "incomplete" rests with the student. This regulation does not apply to thesis and dissertation credits but does apply to terminal project credits.

12. Practicum, Thesis and Dissertation Credits
    (Practicum 698, Thesis 699 and Dissertation 899): The required number of thesis and dissertation credits varies by program. They range up to a maximum of 10 for masters' theses and from 10 to 27 for doctoral dissertations. No student is exempt from this requirement; normal tuition rates will apply. These credits will be graded Y (In Progress) until the thesis or dissertation has been accepted by Graduate Studies at which time these credits will be converted to SAT (satisfactory).

13. Transfer of Courses and Credits Taken Over and Above Credits Earned for a Bachelor's Degree
    An undergraduate student in the senior year who will earn during this year more credits than needed for the bachelor's degree may register concurrently for graduate credits at the University of Massachusetts at Boston after securing the permission of the major adviser and of the graduate course instructor. The student registers for these credits with the Office of Graduate Admissions and Records. Graduate Studies will accept a maximum of six credits earned via this method. After completing the courses, if the student wishes to transfer them to a graduate program, the Office of Graduate Admissions and Records should be requested to send to Graduate Studies an official statement listing the courses, credits, and grades, and certifying that they were over and above those needed by the student for the bachelor's degree. Graduate Studies will then certify these courses on a permanent record card and supply the Office of Graduate Admissions and Records with a document bearing this legend: "Approval given (date) to transfer the following course(s) and credits, earned over and above credits required for the bachelor's degree, toward the master's degree."

14. Academic Honesty Policy
    It is the expressed policy of the University that every aspect of graduate academic life, related in whatever fashion to the University, shall be conducted in an absolutely and uncompromisingly honest manner by graduate students.

    Apparent and alleged breaches in this policy are dealt with by the Graduate Council of the University's Assembly, and are enforced by the Office of Graduate Studies.

15. Administrative Withdrawal
    A student may be administratively withdrawn from the University if, after due notice, the student fails to satisfy an overdue financial obligation to, or to comply with certain administrative requirements of, the University. For a full statement of the regulations regarding administrative withdrawal, see the University's general catalog.

16. Foreign Language Examinations
    Under Graduate Council policy, each academic program establishes foreign language requirements for its own advanced degree candidates. The program determines both the number of foreign languages and the level of competency required. A foreign language is defined for this requirement as a language other than the candidate's native tongue, in which there is a significant body of literature relevant to his or her academic discipline.

# Graduate Programs

# American Civilization

### Faculty

**Irving H Bartlett**, PhD, *Brown University*, Biography; Intellectual History (American Civilization Program)

**Francis L Broderick**, PhD, *Harvard University*, 20th Century American History; Law and Justice (History Department)

**Thomas N Brown**, PhD, *Harvard University*, Immigrant and Cultural History (History Department)

**Robert A Corrigan**, PhD, *University of Pennsylvania*, Literature and Culture; Minority Studies (English Department)

**Frederick Danker**, PhD, *Brown University*, Popular Culture and Folklore (American Civilization Program)

**Mary Anne Ferguson**, PhD, *Ohio State University*, American Literature; Women's Studies (English Department)

**Edwin Gittleman**, PhD, *Columbia University*, Colonial and Romantic American Literature; Afro-American Literature (English Department)

**George Goodwin**, PhD, *Harvard University*, American Political Parties, Legislatures (Political Science Department)

**Seymour Katz**, PhD, *Harvard University*, American Literature; Culture Theory (English Department)

**Shaun O'Connell**, PhD, *University of Massachusetts/Amherst*, Modern American Fiction, The Novel (English Department)

**Franklin Patterson**, PhD, *Claremont Graduate School*, Technology and Media Studies (Political Science Department)

**Richard Robbins**, PhD, *University of Illinois*, American Social History, The New South (Sociology Department)

**Rosamond Rosenmeier**, PhD, *Harvard University*, American Poetry, 17th-20th Century (College of Public and Community Service)

**Lois Rudnick**, PhD, *Brown University*, American Literature and History, 19th and early 20th Century (English Department)

**R Timothy Sieber**, PhD, *New York University*, Community Studies; Socialization and Education; Urban Anthropology (Anthropology Department)

**Suzanne Spencer-Wood**, PhD, *University of Massachusetts/Amherst*, Historical, Urban and Industrial Archaeology; Method and Theory; Public Archaeology (Anthropology Department)

**James Turner**, PhD, *Harvard University*, American Intellectual History; Victorian Culture (History Department)

### The Program

The Master of Arts Program in American Civilization is directed to professionals in education and government, to community leaders and organizers interested in the history and traditions of American culture, and to all able students interested in a deeper understanding of their own society. The broad purpose of the program is to provide the intellectual tools, theoretical background, and practical information which will enable participants to respond positively to the needs, obligations, and opportunities of American citizenship in the years ahead. We aim at a complex interpretation of civilization in the United States which does justice both to the particular divisive forces and to the major unifying symbols in the American experience.

### Summer Institute For Citizenship Education

A cooperative endeavor between the John F Kennedy Library and the University of Massachusetts Institute for Learning and Teaching, this program offers three to six graduate credits which may be applied toward the MA in American Civilization.

### Degree Requirements

Candidates for the MA Degree in American Civilization must satisfactorily complete 30 credits of graduate work including a Final Project. The curriculum is built around a Core of three courses: The Idea of the Nation (6 credits); American Concepts of Citizenship and the Individual (6 credits); Citizenship, Democracy and Future Change (3 credits). Elective courses may be drawn from a large number of graduate and advanced undergraduate courses in history, literature, art, government, and the social sciences.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The American Civilization Committee will offer admission to the program to those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will include:

1. a distinguished undergraduate transcript with generally at least an average of B or 3.0 in appropriate courses;
2. a statement by the applicant (of 800 to 1,200 words) of his or her major interests in the advanced study of American Civilization. While not required, the submission of Graduate Record Examination aptitude scores (verbal and mathematical) is highly recommended.

# American Civilization

**Am Civ 601 The Idea of the Nation I**
Mr Brown
A study of the development of American nationalism from 1775 to 1865 which will focus on the evolution of the concept of "The Union." The student will study the basic public documents and the works in contemporary culture expressive of this development.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Am Civ 602 The Idea of the Nation II**
Mr Brown
A study of the emergence of the modern American nation-state from 1865 to the present. The course will focus on the influence of a national political economy and of periodic war in the development of the modern American nation. The student will study the basic public documents and the works in contemporary culture expressive of this development.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Am Civ 603 American Concepts of Citizenship and the Individual**
Mr Bartlett
How did the "participant civic culture" that we associate with American democracy develop? The course concentrates on the individual's role in politics and society and traces the development of citizenship and national character (what it means to be an American) from the colonial period to 1860. Topics to be discussed include Puritan communalism, the relationship between American freedom and American slavery, contrasting assumptions regarding the individual in the Declaration of Independence and the Constitution, and the tension between morality and citizenship.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Am Civ 604 American Concepts of Citizenship and the Individual**
Mr Katz
What happened to "participant civic culture" as the nation's character changed under the impact of immigration, industrialization, urbanization, depressions, wars, and increasing centralization of power in the federal government, and as the nation's culture changed in response to such developments in the natural and social sciences as Darwinism, Marxism, Freudianism, and the development of the theory of culture? The second half of the course, like the first half concentrates on the individual's role in politics and society, and traces changes in the nature and conception of citizenship during the years from the Civil War to the present.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Am Civ 605 Citizenship, Democracy and Future Change**
Mr Patterson
The course will examine specific examples of technological, economic, and social change in modern America and the world. The first topic for discussion will be 19th and 20th century attitudes towards technology as seen in the books of Edward Bellamy, William Morris and Elting Morison. The second will be persistent long range trends in demographic change, urbanization, bureaucratization, and direct action politics. The third will be divergent scenarios for the American future which policy makers must consider today. Actual planning documents such as the recent *Global 2000 Report to the President* will be used wherever possible.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Am Civ 610 Citizen Education Institute**
Staff
The Citizenship Education Institute is a summer program run in collaboration with the John F Kennedy Library and the University's Institute for Learning and Teaching. It focuses on the study of past and present political processes and political and social problems, and is especially relevant to teachers. The Institute offers an intensive educational experience; sessions are held at least four hours a day over a two week period. Case studies, media presentations and meetings with community and government leaders are emphasized.
*Prerequisite: Graduate standing or permission of staff.*
3 Credits

**Am Civ 690 Seminar in American Civilization**
Staff
An advanced course in interdisciplinary research on selected topics relating to American history and culture.
*Prerequisite: Graduate standing.*
Disc 3 hrs weekly
3 Credits

**Am Civ 696 Independent Study**
Staff
An advanced course of independent reading in some aspect of American history or culture with the approval of the instructor and the Director of the Graduate Program.
*Prerequisite: Graduate standing.*
Disc 2 hrs weekly
3 Credits

**Am Civ 697 Independent Study**
Staff
An advanced course of independent readings under the guidance and subject to the examination of the instructor.
*Prerequisite: Graduate standing.*
Hrs to be arranged
3 Credits

**Am Civ 698 Final Project**
Staff
A substantial research paper or applied project. The project may deal with a substantive problem in the history of American Civilization or it may be related to the student's practical experience (e.g., a curriculum project, the history of a community service undertaking or institution, a proposal for more effective citizen participation in a matter of substantial public concern). The project will be determined in consultation with the student's advisor and must be approved by the advisor and two other faculty members involved in the program.
3-6 Credits

# Bilingual/ESL Studies

### Faculty

**Jeanne Ambrose-Grillet**, Docteur en Linguistique, *Sorbonne*, Bilingualism; Transformational Grammar

**Neal Bruss**, PhD, *University of Michigan*, English Language; Semiotics

**Mary Anne Ferguson**, PhD, *Ohio State University*, History of the English Language

**Donaldo Macedo**, EdD, *Boston University*, Applied Psycholinguistics; Second Language Acquisition; Second Language Teaching Methodology

**Gerald Murray**, PhD, *Columbia University*, Haitian Culture; Anthropological Linguistics

**Richard W Newman**, PhD, *Boston University*, Applied Linguistics; Bilingualism; Second Language Teaching Methodology

**Penelope Shaw**, PhD, *University of Michigan*, ESL Methodology/ Adults; Communication; Group Dynamics

**Michiko Takaki**, PhD, *Yale University*, Language and Culture; The Ethnography of Speaking

**Vivian Zamel**, PhD, *Columbia University*, ESL Writing Theory; ESL Classroom Methodology; Classroom Observation

### The Programs

The programs are designed to provide pre-service training and in-service enrichment for teachers instructing limited English proficiency students at the elementary, secondary, or university level or in adult education programs. Courses are offered in basic theoretical linguistics, applied linguistics of English and target languages, and the interdisciplinary areas of psycholinguistics and sociolinguistics. There are also offerings in cross-cultural relationships and the process of acculturation, second language teaching methodology, and first language maintenance. The programs combine on-campus classroom work with on-site experience in ESL and bilingual classrooms.

### Bilingual Special Education

Students interested in Bilingual Special Education may matriculate into the Special Education Program and incorporate several Bilingual/ESL Studies courses into that degree program and into the special education practicum in a bilingual setting. Further Information may be obtained from the Graduate Program Director of the Special Education Program.

### Degree Requirements

Thirty graduate credits and a comprehensive examination are required of all candidates. The program consists of three components:

1. Three core courses required of both bilingual and ESL students.
2. Either a bilingual component or an ESL component of at least 15 credits.
3. Related courses (maximum of 6 credits).

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Applicants to the Bilingual/ESL Studies programs are strongly urged to take the Miller Analogies Test (MAT). Suitable GRE scores will also be accepted.

Special Admission Requirements for Candidates for the MEd in Bilingual Education

1. Candidates must indicate non-native proficiency in a bilingual target language by submitting a passing score on the Massachusetts Bilingual Teacher Language Proficiency Test.
2. Native speakers of a language other that English must submit a TOEFL score.

Special Admission Requirements for Candidates for the MEd in English as a Second Language

1. Candidates must indicate proficiency in a language other than English at a level equivalent to two years of successful college study.
2. Candidates should submit evidence of general knowledge of American literature, English literature, and American culture. This requirement may be satisfied by indicating suitable undergraduate credits in English, history, political science, etc.
3. Non-native speakers of English must submit a minimum TOEFL score of 575.

### Core Courses

Linguistics and Contrastive Analysis

Psycholinguistics/Sociolinguistics

Cross-cultural Perspectives

### Related Courses

Students may elect up to 6 credits in related courses. Students in the Bilingual program are encouraged to elect courses from the ESL component. ESL students who plan to work in bilingual programs are urged to elect bilingual courses. Students may also elect graduate courses in English, critical and creative thinking, school psychology, and related fields.

### Independent Study

During their final semester, students may elect Independent Study with a member of the teaching staff. Under special circumstances, advanced students may take Independent Study before their last semester.

### Practicum

The Practicum is required of all students who have had no on-site teaching experience (paid teaching, supervised student teaching, supervised teaching in an adult social or educational agency). This requirement can be satisfied through work in University undergraduate ESL classes, in a public school system, or at a community agency.

### Comprehensive Examination

During their final semester, degree candidates are required to take a comprehensive examination. Students should consult the Director for details.

# Bilingual/ESL Studies

**BES 620 Linguistics and Contrastive Analysis**
Staff
The nature and origin of language. The history of linguistics and its new theoretical developments. Principles of language analysis: phonology, morphology, and syntax. A systematic comparison of English structures with those of Capeverdean, French, Portuguese, and Spanish.
3 Lect Hrs
3 Credits

**BES 621 Psycholinguistics and Sociolinguistics**
Staff
Contemporary issues and development in the field of psycholinguistics and sociolinguistics. Theories of language acquisition, the relationship of first to second language acquisition. Theory and current research methodology in sociolinguistics. Study of language attitudes and variations, and code-switching.
3 Lect Hrs
3 Credits

**BES 622 Cross-Cultural Perspectives**
Staff
Students will develop perceptions of cultural similarities and differences from a knowledge of concepts and meanings of culture. Discussions and research will be directed toward developing educational programs and activities.
3 Lect Hrs
3 Credits

**BES 640 Methods and Materials In Bilingual Education**
Staff
Examination of major contemporary theories of learning in bilingual education. Focus on the method of instructional improvement strategies, objectives and procedures of evaluation as they relate to the developmental needs of elementary and secondary bilingual students. Prospective teachers will acquire an understanding of the process of selection, adaptation and development of instructional materials.
3 Lect Hrs
3 Credits

**BES 641 Foundations of Bilingual/Multilingual Education**
Staff
The rationale for bilingual education and its typology, with a survey of some successful Massachusetts programs. Special consideration given to the provisions of Title VII and the Massachusetts Transitional Bilingual Education Law.
3 Lect Hrs
3 Credits

**BES 642 Curriculum Development in Bilingual Education**
Staff
Analysis of the major components of curriculum study including practices, innovations, positions and theories as applied to bilingual schools.
3 Lect Hrs
3 Credits

**BES 643 The Bilingual Child with Special Needs**
Staff
Students in this course will become familiar with the various types of testing needed for bilingual special needs children. The course will survey the existing tests in intelligence, academic achievement, language development, and post-test remediation and therapy.
3 Lect Hrs
3 Credits

**BES 644 Capeverdean Linguistics**
Staff
A systematic analysis of the phonology, morphology, and syntax of Capeverdean. A diachronic analysis focusing on the historical, cultural and socio-political factors which played a significant role in the pidginization and creolization of the Capeverdean language.
3 Lect Hrs
3 Credits

**BES 645 Franco-American Linguistics**
Staff
A thorough study of differences and similarities in the linguistic structures of Franco-American and universal French, regional and social variations in the linguistic structure of Franco-American speech, and discrimination between levels of language acceptability in Franco-American speech.
3 Lect Hrs
3 Credits

**BES 646 Haitian Linguistics**
Staff
A contrastive analysis of the Haitian language and English. A study of Haitian phonology, syntax, semantics and morphological structures in contrast to French and English features within recent linguistic developments. Consideration will also be given to problems in bilingualism/biliteracy in the school curriculum.
3 Lect Hrs
3 Credits

**BES 647 Portuguese Linguistics**
Staff
Linguistic analysis of the phonology, morphology, and syntax of Portuguese, and a systematic comparison of its structures with those of English.
3 Lect Hrs
3 Credits

**BES 648 Capeverdean Culture**
Staff
A study of the social, political, religious, and ethnic aspects of Capeverdean culture. Myths, legends, folktales, poetry and riddles will be analyzed, along with culture shock caused by the conflict of cultures.
3 Lect Hrs
3 Credits

**BES 649 Franco-American Culture**
Staff
The study of Franco-American culture of New England and Louisiana as it relates to history, folklore, language, literature, art and music. Special emphasis on social, political, religious, economic, and historical events which have contributed to the reality of the Franco-American of today.
3 Lect Hrs
3 Credits

**BES 650 Haitian Culture**
Staff
An examination of several aspects of Haitian culture: historical, economic, social, political, religious, and ethnic. Documentation of cultural stigmas and attitudes toward various oral and written traditions in contact with North American culture.
3 Lect Hrs
3 Credits

**BES 651 Portuguese Culture**
Staff
An exploration of the nature of Portuguese culture, with consideration of social, economic, religious, and ethnic factors. Various cultural traditions such as myths, legends, folktales, poetry and riddles will be analyzed, along with culture shock caused by the conflict of cultures.
3 Lect Hrs
3 Credits

**BES 660 ESL Methodology I**
Staff
This course is designed to present students with a theoretical background in the principles and methods of teaching English as a second language. Consideration of the nature of second language acquisition and the psychological and linguistic influences on ESL teaching. The course will include a survey of major methodological approaches to ESL teaching, and an evaluation of the relation of theory to practice.
3 Lect Hrs
3 Credits

# Biology
## Applied Marine Ecology

## Bilingual/ESL Studies

**BES 661 ESL Methodology II**
Staff
This course will familiarize students with both the general schools that have formed the basis of teaching ESL, such as audio-lingualism, cognitive code and notional functionalism, and the more specific methodological models that represent extensions and adaptations of these different perspectives. Approaches to the teaching of English language skills and techniques that transcend skill areas will be evaluated.
3 Lect Hrs
3 Credits

**BES 662 ESL Materials Development**
Staff
Principles of adult education. Major methodological trends in curriculum and syllabus design. Overview of materials. Analysis of student texts.
3 Lect Hrs
3 Credits

**BES 663 The Structure of the English Language**
Staff
This course covers ways of describing the structure of English, from traditional methods used in many textbooks to alternative methods. Discussion of teaching methodologies and sociolinguistic considerations, and practice in applying these theories and techniques.
3 Lect Hrs
3 Credits

**BES 664 Phonetics and Phonemics**
Staff
This course will cover the sound system of English, principles of phonetics and phonemics and an introduction to phonology. Students will practice using this knowledge to do error analysis and teach aural/oral skills.
3 Lect Hrs
3 Credits

**BES 670 Testing in ESL and Bilingual Education**
Staff
Students will become familiar with language proficiency and language maintenance testing, and with other measurement and evaluative procedures needed in the administration and instruction of limited English proficiency students in ESL and bilingual programs.
3 Lect Hrs
3 Credits

**BES 671 The Teaching of Reading in the ESL and Bilingual Classroom**
Staff
Analysis of current teaching theories in reference to ESL and bilingual reading practices. Specific reading methodologies, materials and teaching strategies are examined.
3 Lect Hrs
3 Credits

**BES 691 Seminar**
Staff
Experimental seminars on special topics.
3 Lect Hrs
3 Credits

**BES 696 Independent Study**
Staff
Study of one of the following areas under the supervision of a faculty member: applied linguistics, psycholinguistics, sociolinguistics, second language and bilingual methodology, cross-cultural studies.
Hrs by arrangement
1-3 Credits

**BES 698 Practicum**
A supervised on-site field experience in the teaching of bilingual education or ESL on an elementary or secondary level, or in a social or educational agency serving limited English proficient students.
Hrs by arrangement
3-15 Credits

### Faculty

**Steven Ackerman**, PhD, *University of Pennsylvania*, Molecular Biology

**Kamaljit Bawa**, PhD, *Punjab University*, Plant Ecology and Genetics

**Ruth Bennett**, PhD, *Tufts University*, Neurophysiology

**Kenneth Campbell**, PhD, *University of Michigan*, Cell Physiology Endocrinology

**Elizabeth Davis**, PhD, *Brandeis University*, Developmental Biology, Tissue Culture

**John Ebersole**, PhD, *University of California, Los Angeles*, Marine Ecology

**John Freeberg**, PhD, *Harvard University*, Plant Morphogenesis

**Robert Guimond**, PhD, *University of Rhode Island*, Physiology

**William Hagar**, PhD, *Temple University*, Photosynthesis

**Bettina Harrison**, PhD, *Boston University*, Immunology and Ultrastructure

**Jeremy Hatch**, PhD, *Duke University*, Animal Behavior and Ecology

**Lawrence Kaplan**, PhD, *University of Chicago*, Archaeological Botany

**Christine Armett Kibel**, PhD, *University of London, University College*, Neurophysiology

**Michael Rex**, PhD, *Harvard University*, Marine Ecology

**Fuad Safwat**, PhD, *Washington University*, Plant Morphogenesis

**Edna Seaman** PhD, *University of Illinois, Urbana*, Molecular Genetics

**Michael Shiaris**, PhD, *University of Tennessee*, Microbiology, Ecology

**Claire Van Ummersen**, PhD, *Tufts University*, Developmental Biology

**Nevin Weaver**, PhD, *Texas A & M*, Biology of Insects

**Richard White**, PhD, *Washington University*, Vision Physiology

**Garrison Wilkes**, PhD, *Harvard University*, Plant Genetics and Evolution

### The Program

The Biology Program is designed to accommodate students of various backgrounds who wish rigorous training leading to the Master of Science Degree. The program consists of two tracks: Biology and Applied Marine Ecology.

### The Track in Biology

The track in biology allows the student to concentrate in one or more areas: botany, cell biology, marine ecology, physiology, population biology, or biomedical sciences. With the help of a faculty advisor, a cohesive course of study is designed from among the wide variety of research and study interests of the departmental faculty. The student may choose a program of study with thesis designed to provide competency for teaching, research, or further study. Another option is a program with a library research project designed to meet the needs of a generalist. Under either option students may gain valuable experience through supervised participation in the teaching of undergraduate laboratory courses.

# Biology

### The Track in Applied Marine Ecology

The track in applied marine ecology is a flexible program that will provide professional training in the principles and methods of ecology, and managerial and program planning skills necessary for those entering business, government, and consulting firms.

Emphasis will be placed on the application of fundamental principles of ecology to the use and protection of environments and populations, particularly in the marine biosphere. Students entering the program with a background in basic evolution and ecology will move directly into a core curriculum involving course work on marine ecosystems, theories of community structure, scientific writing and sampling methods, and data analysis. They will then have the opportunity to specialize in one of three areas: ecosystems ecology, physiological ecology and marine microbiology.

### Facilities

The department's modern facilities support a broad spectrum of research interests normally found in the biological sciences. There are special, well-equipped research laboratories for graduate courses with amino acid analyzers, computer facilities, controlled temperature growth chambers, electron microscopes, electrophysiological equipment, high-speed and refrigerated centrifuges, spectrophotometers, and scintillation counters. In addition, ample field equipment, boats, a greenhouse, salt water tanks and other support facilities are available for enhancing studies in marine, aquatic and terrestrial environments.

The campus is located on Boston Harbor, and therefore one type of marine environment is readily accessible. Arrangements can be made for the use of the marine facilities and laboratories on Nantucket Island and at Gloucester. Through the cooperation of the Waltham Field Station of the University, the Program has facilities for large plantings of botanical materials. There are other institutions in the area with which the Program has informal arrangements through which some rather specialized facilities can be made available if they are needed.

### Degree Requirements

Thirty credits are required for the Master's degree in both tracks: Biology and Applied Marine Ecology.

Each student will be assigned to a three-member advising committee which will be responsible for insuring that the candidate for a degree fulfills all requirements of the Biology program and the Office of Graduate Studies. Graduate students may select courses at the 600 level or above, subject to the permission of the instructor. Students who choose to write a thesis will have a thesis advisor and must enroll in Biol 699 (Thesis Research). All other students are required to take Biol 698 (Projects in Biology). In addition, all students must take at least one semester of Biol 655 and Biol 656 (Scientific Communication I and II), as partial fulfillment of Master's degree requirements.

All Master's candidates must take a general oral examination which will not be limited to the thesis topic. A student writing a thesis will be required to submit a thesis outline to the thesis committee for approval at least three months prior to the Master's oral examination.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Applicants to the program in Biology must submit Graduate Record Examination scores, including a score for one advanced test.

An applicant is expected to have a grade point average of 3.0 in all undergraduate science and mathematics courses. The stated interests of a prospective student must coincide to an acceptable degree with faculty specialties represented in the program. The Biology Graduate Committee is responsible for reviewing applications and for recommending candidates to the Deputy Provost for Graduate Studies.

**All 600-level courses with the exception of Nos. 698 and 699 are open to advanced undergraduates who meet prerequisites and have permission of the instructor.**

**Biol 601 Marine Ecosystems**
Staff
The structure and function of coastal marine habitats including rocky intertidal areas, sandy beaches, tidal and mud flats, estuaries, salt marshes, soft bottom areas and plankton. The course will review the physical regime, flora and fauna of these environments and case histories of community organization.
*Prerequisites: Undergraduate course in ecology and permission of instructor.*
3 Lect-Disc Hrs
3 Credits

**Bio 602 Plant Physiology**
Staff
Current developments in plant physiology, morphogenesis and bio-chemistry.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
3-5 Credits

**Biol 603 Theories of Community Structure**
Staff
Theoretical aspects of community development and organization including deography, competition, predation, life history strategies, trophic structure, community stability and equilibrium and non-equilibrium models of species diversity. Mathematical and graphical approaches will be emphasized.
*Prerequisites: Undergraduate course in ecology and permission of instructor.*
3 Lect-Disc Hrs
3 Credits

**Biol 604 Biology of Cities**
Staff
Aspects of the origin and development of cities relevant to human biology, food, air, water, energy, waste, and flow of those resources into and out of cities.
*Prerequisite: Introductory Biology.*
3 Lect-Disc Hrs and additional field trips
3 Credits

**Biol 605 Field Sampling Methods and Data Analysis**
Staff
Statistical principles of research design integrated with field techniques, to measure parameters of community structure. Field exercises will involve application of the principles learned in lecture and the use of typical sampling equipment to solve environmental questions.
*Prerequisites: Biol 342, 343, or permission of instructor.*
3 Lect Hrs, 6 Lab Hrs
5 Credits

# Biology

**Biol 608 Biophysical Instrumentation**
Staff
A lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is on techniques for interfacing the microcomputer to laboratory experiments for automated data acquisition, data reduction and analysis, information display and real-time control of experiments. Also listed as Phys 608.
*Prerequisites: Graduate standing or permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Biol 610 Ethnobotany**
Staff
Review of studies on plant use by primitive societies in historic and prehistoric times. Ordinarily offered in conjunction with Biol 613.
*Prerequisite: Biol 105, 220 or equivalent (recommended) and permission of instructor.*
2 Seminars or Tutorial Hrs
2 Credits

**Biol 612 Advanced Cell Biology**
Staff
The analysis of gene transfer and expression at the cellular level, including the nature of metabolic systems and the factors governing their regulation.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
3-5 Credits

**Biol 613A Archaeological Botany**
Staff
Laboratory tutorial: Recovery, identification and analysis of macroscopic remains, pollen and spores from archaeological and geological deposits; interpretation of the data derived and their botanical, archaeological and paleoecological applications.
*Prerequisite: Permission of instructor; Biol 610 or equivalent will be required (number of credit hours will be determined by prior consultation with instructor).*
3 Lab-Disc Hrs Per Credit
2-5 Credits

**Biol 614 Advanced Cell Chemistry**
Staff
The methodology of cell analysis, with emphasis on macromolecules and intermediary metabolites.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
3-5 Credits

**Biol 615 Immunology**
Staff
A study of the processes by which higher animals defend themselves against foreign substances either from within or from the environment. This study includes both basic and clinical sciences.
*Prerequisites: Biol 211 and one of the following: Biol 372, Chem 254, Chem 354; permission of instructor.*
3 Lect Hrs
3 Credits

**Biol 618 Evolution Under Domestication**
Staff
The origin, evolution and phylogenetic relationships of domesticated and semi-domesticated plants and animals; the influence of cropping and herding on natural floras and faunas of the world.
*Prerequisites: Biol 241, 242 or equivalent and permission of instructor.*
3 Lect Hrs and Saturday Field Trips
3 Credits

**Biol 622 Concepts and Methods in Cytology**
Staff
The structural basis of cellular and subcellular functions, with practical experience in methods of visualizing cellular structure.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
3-5 Credits

**Biol 624 Algal Physiology**
Staff
Examination of current research areas in algal physiology, selected from such topics as algal nutrition, chromatic adaptation, symbiotic relationships, control of planktonic sinking rates, secretion of specialized products (polysaccharide, carbonate, silica), and control of sexuality.
*Prerequisite: Biol 211 and 324 or equivalent or permission of instructor.*
2 Lect Hrs, 1 Sem Hr
3 Credits

**Biol 625 Insect Biology**
Staff
The physiology and biochemistry of insects, emphasizing those adaptations that have made insects the most successful group of animals. The laboratory portion of the course will stress the morphology, diversity and classification of insects.
*Prerequisite: Biol 211, 240 and 371 or equivalent and permission of instructor.*
3 Lect Hrs
3 Credits

**Biol 628 Microbial Ecology**
Staff
The functions, roles, and ecology of microorganisms in the environment emphasizing biogeochemical cycling of elements. Special topics of concentration will be chosen from the following: microbial diversity, evolution, interactions, aquatic or soil microbiology, and sewage microbiology. Course will concentrate on interrelating molecular and biochemical mechanisms with ecological principles. Readings will be assigned from classical and current scientific literature for class discussion in addition to lectures by instructor. An in-depth review paper on a special topic will be required.
*Prerequisites: Biol 334 or 342, and 372 and permission of instructor.*
3 Lect Hrs
3 Credits

**Biol 630 Natural History of Marine Invertebrates**
Staff
Examination of convergent and divergent ecological, behavioral and morphological adaptations of marine organisms in different habitats. The course will draw heavily on the resources of Boston Harbor. The first half of the semester consists of lectures and demonstration laboratories; the second half includes weekly field trips. The first half of the course will be indoor lectures—3/wk—and demonstration laboratories—1 Hr/wk. The second half will have 1-2 lectures/wk and one 4 Hr field trip/wk.
*Prerequisite: Biol 211, or 234, 341, 342 or equivalent and/or permission of instructor.*

**Bio 632 Advanced Evolution**
Staff
An inquiry into the modern synthetic theory of evolution with emphasis on population genetics, ecological genetics, evolution of dominance, genetic homeostasis, canalization and genetic theory of polymorphism.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
3 Credits

**Biol 638 Advanced Ecology**
Staff
Concentration on important concepts of population and community ecology. Topics covered may include population dynamics, life history strategies, theory of r- and K-selection, competition, predation, community organization, and species diversity. Particular emphasis is placed on the relationship between theoretical and empirical ecology. A weekly tutorial will provide opportunity for greater discussion of material covered in lecture. Emphasis changes from year to year.
*Prerequisite: Biol 341, 342 or equivalent or permission of instructor.*
2 Lect Hrs, 1 Disc Hr
3 Credits

# Biology

**Biol 640 Principles of Qualitative Modelling in Biology**
Staff
A mathematical analysis of biological systems, with emphasis on qualitative rather that quantitative approaches. Signed digraphs (Loop Analysis), matrices, and computer programming will be used. In addition, notions of feedback, stability and other global properties of systems will be presented. During the work section, students will be grouped to solve problems. At the completion of the course students will be competent to distinguish the various methods, assess their strengths and limitations, and be able to apply them to biological systems of interest.
3 Lect-Disc Hrs
3 Credits

**Biol 642 Biogeography**
Staff
A study of geographical distribution patterns in plants and animals, including historical and descriptive aspects of the distributions of organisms, experimental and comparative tests of island biogeography theory, the population genetics and evolutionary strategies of colonizing species. Lectures by instructor, one discussion session per week, independent research by students that will be presented to the class in seminar form.
*Prerequisite: Biol 341, 342 or equivalent. Some knowledge of statistics and calculus highly recommended.*
3 Credits

**Biol 643 Behavior and Ecology of Seabirds**
Staff
Adaptations of seabirds to the marine environment with particular reference to breeding biology and feeding strategies; other topics of current interest in behavioral ecology. Lectures or lecture and field work.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
2-5 Credits

**Biol 645 Ecological and Evolutionary Aspects of Plant-Animal Interactions**
Staff
Ecological and evolutionary aspects of plant-animal interactions. Coevolution of plants and animals will be examined in an ecological context. Interactions to be examined include pollination, seed predation, herbivory and grazing. The role of these interactions in the regulation of community structure will be discussed. Although emphasis will be on tropical communities, alpine, temperate, and desert communities will also be covered.
*Prerequisite: Biol 341 or equivalent or permission of instructor.*
3 Lect Hrs
3 Credits

**Biol 646 Pollutants in Marine Food Chains**
Staff
Examination in depth of the entry of selected pollutants into the oceans, their movements, distribution and effects within marine organisms. Where possible, case studies from New England will be used.
*Prerequisite: Organic Chemistry, Physiology, Ecology, and permission of instructor.*
Hrs by arrangement
2 Credits

**Biol 650-651 Scientific Communication I & II**
Staff
Two-semester course required of all graduate students in Biology during their first year. Develops skills in library research and clear technical writing.
2 Sem Hrs and mandatory attendance at Biology Department seminars
2 Credits

**Biol 660 Seminar in Developmental Biology**
Staff
Current problems in developmental biology; molecular and cellular differentiation, and pattern determination.
*Prerequisite: Biol 211 and permission of instructor.*
3 Sem-Disc Hrs
3 Credits

**Biol 662 Photobiology**
Staff
The photochemical reactions that occur in biological systems. Major topic areas are: properties of light energy, utilization of light energy by photosynthetic organisms, mechanism of visual transduction, photochemical triggering mechanism for developmental processes.
*Prerequisite: Permission of instructor.*
3 Lect Hrs
3 Credits

**Biol 666 Seminar in Neurobiology**
Staff
A consideration of the structure, function and development of sensory receptors, neurons and muscles.
*Prerequisites: Biol 211 or equivalent and/or permission of instructor.*
3 Lect Hrs
3 Credits

**Biol 670 Tissue and Organ Culture**
Staff
Methods of plant and animal tissue and organ culture with special emphasis on problems of differentiation and morphogenesis *in vitro*. Introduction of certain techniques now used in plant protoplast culture and for hybridization of somatic cells in plants and animals will be presented. Provisions will be made for independent projects during the course.
*Prerequisite: Permission of instructor.*
1 Lect Hr, 6 Lab Hrs
3-4 Credits

**Biol 672-673 Directed Readings in Biology**
Staff
Selected readings in advanced areas of biology with guidance and regular discussion.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
1-3 Credits

**Biol 680 Methods in Comparative Biochemistry**
Staff
Analysis of tissues and subcellular particulates from microorganisms, plants, invertebrate and vertebrate animals to reveal physiological differences and evolutionary trends as expressed by chemical differences. The use of chromatography, spectrophotometry, tracer methodology and chemical derivation for the analysis of tissues and organelles isolated by dissection and differential centrifugation. Techniques for cell disruption and sampling will be presented along with instruction in the operation of equipment for the separation, purification and identification of tissue constituents.
*Prerequisite: Permission of instructor.*
6 Lab Hrs, 2 Credits
9 Lab Hrs, 3 Credits

# Biology

**Biol 691 Advanced Ethology**
Staff
Examination in depth of topics in the biological study of behavior-ethology with particular reference to communication and the evolution of social behavior. There will be lecture-discussions and lab exercises, also field trips.
*Prerequisite: Biol 211 and 341, or Psych 265, or equivalent, and permission of instructor.*
Hrs by arrangement
2-6 Credits

**Biol 692 Advanced Physiology**
Staff
In-depth experimental studies of two or three selected areas of organismal and cellular physiology, focusing on sensory and nervous systems and membrane transport. Provisions will be made for independent projects during the course. One weekly seminar plus one weekly lab meeting. Usually offered in the spring.
*Prerequisite: Biol 316, 372 or equivalent, Organic Chemistry, Physics, and permission of instructor.*
1 Sem Hr; 3-4 Lab Hrs
3-4 Credits

**Biol 697 Concepts In Modern Biology**
Staff
A field of biology of current interest is examined in detail.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
2-5 Credits

**Biol 698 Projects In Biology**
Staff
A substantial written report based on library research or an original project such as curriculum design, design of teaching aids and exercises, critique of a book or theory, etc. No more than 6 credits of this course may be applied to the master's degree. The credit may be applied over more than one semester. Biol 698 and Biol 699 are mutually exclusive.
Hrs by arrangement
6 Credits

**Biol 699 Thesis Research**
Staff
Substantial laboratory or field research resulting in a master's thesis. This course may not substitute for Biol 698 (these two courses are mutually exclusive). No more than 10 credits of this course may be applied to the master's degree. The credit may be applied over more than one semester.
Hrs by arrangement
10 Credits

**Biol 720 Cell Ultrastructure**
Ms Harrison, Ms Kibel, Mr White
Concepts of cell ultrastructure and methods of electron microscopy.
*Prerequisite: Graduate standing and permission of instructor.*
Hrs by arrangement
3-5 Credits

# Business Administration

### Faculty

**Jeanne M Aurelio**, MBA, DBA, *George Washington University,* Organizational Behavior

**Nicholas T Batis**, PhD, *Polytechnic Institute of New York,* Management Science, Operations Research

**Gunther S Boroschek**, PhD, *Harvard University,* Human Resources Management

**Pouran T Espahbodi**, MBA, *George Washington University,* PhD, *University of Alabama,* Accounting

**Arthur A Goldsmith**, MBA, *Boston University,* PhD, *Cornell University,* Business and Society

**Candace Hetzner**, PhD, *University of Chicago,* Business and Society

**Peter T Ittig**, PhD, *Cornell University,* Management Science, Operations Management

**Mary Ann Joseph**, Postgraduate Degree in Management, *Indian Institute of Management, Calcutta,* PhD, *Northwestern University,* Marketing

**Cynthia Y Ker**, MBA, DBA, *University of Colorado,* Management Science

**Hans E Klein**, DBA, *University of Kentucky,* CMA, Managerial and Financial Accounting

**Stephan E Kolitz**, PhD, *Northwestern University,* Management Science, Operations Research

**Marc A Louargand**, PhD, *University of California at Los Angeles,* Land Economics, Finance

**Peter J McClure**, MBA, DBA, *Indiana University,* Buyer Behavior

**Joseph A McHugh**, MBA, *Creighton University,* PhD, *Michigan State University,* CPA, Managerial and Financial Auditing

**Allyn A Morrow**, MPA, PhD, *University of Pittsburgh,* Public Management

**John C Papageorgiou**, PhD, *University of Manchester,* Management Science

**Richard L Pyle**, MBA, *University of Michigan,* PhD, *University of Massachusetts,* Business Policy

**Phillip L Quaglieri**, PhD, *Stevens Institute of Technology,* Personnel, Organizational Behavior

**Joseph Reed**, PhD, *University of Wisconsin,* Public Management

**Dean J Salutl**, MBA, *Boston College,* EdD, *Boston University,* Management Information Systems, Decision Support Systems

**Vivien A Schmidt**, PhD, *University of Chicago,* Organizational Theory

**Daniel G Shimshak**, MBA, *Baruch College,* PhD, *City University of New York,* Management Science, Operations Management

**Lauren A Swanson**, MS, *University of Wyoming,* Business Administration, PhD, *University of Georgia,* Advertising, Buyer Behavior

**Robert C Terrill**, MHA, *State University of Iowa,* EdD, *Indiana University,* Health Administration

**Joan C Tonn**, PhD, *University of Michigan,* Organizational Behavior

**Patricia L Wilkie**, PhD, *Wayne State University,* Organizational Behavior

**Douglas B Wilson**, MPA, PhD, *Syracuse University,* Finance

**Haroldene F Wunder**, PhD, *University of South Carolina,* Accounting and Taxation

**Gary G Young**, MBA, PhD, *State University of New York at Buffalo,* Industrial Marketing, Sales Management

**Fatemeh Zahedi**, MBA, DBA, *Indiana University,* Management Science

**Leon Zurawicki**, PhD, *Warsaw University,* International Marketing Strategies

### The Program

The program leading to the MBA degree is designed to develop general competence in overall management and to meet the curricular requirements of the American Assembly of Collegiate Schools of Business (AACSB). The objectives of the program are to provide students with the following:

- An understanding of the history, structure, and philosophical foundations of the business organization and an appreciation of the relationship between business and the society in which it operates.
- Opportunities to apply research and decision-making tools and techniques in the solution of managerial problems in private and nonprofit settings.
- Opportunities to integrate knowledge through analysis of complex managerial problems.

The program is suitable for persons with undergraduate degrees in a variety of fields including the liberal arts or engineering as well as business. Students with an undergraduate degree in business may be eligible for advanced standing. To enable persons who are employed during normal working hours to pursue the degree program, MBA courses are offered in the evening, Monday through Thursday, on a one meeting per week schedule. The program, therefore, is designed primarily though not exclusively for part-time students. Depending on eligibility for advanced standing, a part-time student taking two courses a semester may complete the program within five to nine semesters.

### Degree Requirements

To earn an MBA degree, a student must satisfactorily complete between 30 and 54 semester credits at the graduate level and must satisfy the Core and Elective requirements of the program.

*Core requirements.* The MBA core consists of ten courses that are required of all students: Managerial Economics, Accounting for Managers, Financial Management, Statistical Analysis for Managers, Operations Management, Computer and Information Systems, Organizational Theory and Behavior, Business and Its Environment, Marketing Management, and Business Policy. A maximum of 24 credits of the MBA core may be waived for students who have satisfactorily completed appropriate courses at the undergraduate level. (See "Advanced Standing.")

*Elective requirements.* In addition to the core courses, students must satisfactorily complete at least 24 semester credits in advanced courses that are available at the time of election. Students may wish to use some of their elective credits to specialize in one of the functional areas of management (accounting, finance and economics, management, marketing, operations management, or information systems). To insure that students receive a well-rounded preparation for management, no more than nine credits (three courses) may be elected within a given functional area. At least fifteen credits (five courses) must be elected from advanced courses outside the area of specialization.

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*Program options.* The flexibility provided by the elective requirement also permits students who are interested in pursuing management careers in the public sector or in the health care system to construct a program of study which will prepare them for managerial positions in these settings. The Public Management or Health Administration program options may be exercised by electing advanced courses that are designed to address the issues, options, and constraints especially pertinent to management within these institutions. Students who choose either of these program options may elect no more than nine credits within a given functional area.

*Plan of Work.* To insure a timely assessment of advanced standing and an appropriate distribution of elective courses, students must submit a plan of work to the MBA Graduate Program Director by the time they have completed six credits (two courses) within the program.

*Sequencing of courses.* Seven of the ten core courses must be successfully completed (or waived in the assessment of advanced standing) before students elect advanced courses. In any case, students must successfully complete the core course in a given subject area before electing an advanced course in that area. The Business Policy course (MGT 689), part of the required core, is the "capstone" course for the program. Students must complete the core requirements and at least four advanced courses before enrolling in the Business Policy course.

*Advanced Standing.* The MBA core is designed to provide instruction in what business schools define as the common body of knowledge in management. Some applicants, as part of their undergraduate degree programs, have received instruction in some areas of the common body of knowledge. Such applicants may be eligible for advanced standing in the MBA program. Advanced standing is the waiver of some portion of the MBA core requirements. If a student has sufficient recent undergraduate coursework from an accredited institution in subject matter included in the core and has received a minimum of B in those courses, the student, upon admission to the program, may submit a request for waiver of credits to the MBA Graduate Program Director. Judgments concerning eligibility for advanced standing are made by the faculty of the College of Management and are based on analysis of transcripts, course syllabi, examination, or other relevant material. No more than 24 credits shall be waived.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Master of Business Administration (MBA) Admissions Committee will offer admission to applicants who show evidence of high promise of success in the MBA program of study. Such evidence must include:

1. A score on the Graduate Management Admissions Test (GMAT). Information about the GMAT is available from the Educational Testing Service, Box 966-R, Princeton, NJ 08541.
2. A minimum grade point average of 3.0 in the last 60 semester hours of undergraduate courses.
3. The satisfactory completion at the undergraduate level of the following program prerequisites: micro and macro economics, statistics, and at least six semester credit hours of mathematics that include or are above the level of college algebra. Applicants who have not met these prerequisites prior to admission may be asked to complete them before beginning their course of graduate study.
4. A statement of 500-800 words by the applicant of his or her preparation for graduate study of business administration.

The MBA Admissions Committee will consider, in addition to the above requirements, the contributions of an employment record at appropriate and increasing levels of responsibility. Applicants for whom such consideration is relevant are encouraged to include in the above statement an employment history and an account of how that work experience has contributed to their preparation for graduate study of business administration.

### Courses

In order to enroll in MBA courses, students must be matriculated in the MBA program. All MBA courses award three credits and meet once per week for three class hours. Additional laboratory or tutorial hours may be arranged.

### Core Courses

**AF 601 Managerial Economics**
Staff
Examines managerial applications of micro and macro economic theory. Topics include optimization techniques applied to consumer choice, firm behavior, pricing, and the study of market structure.
3 Lect Hrs
3 Credits

**AF 610 Accounting for Managers**
Staff
Instructs students in the fundamentals of financial and managerial accounting. The financial accounting component presents techniques used to measure business transactions, preparation of financial statements, recording and valuation of assets, owners' equity, revenue, cost and expenses. The managerial accounting component deals with techniques for management decision-making, planning, and control.
3 Lect Hrs
3 Credits

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**AF 620 Financial Management**
Staff
Principles of financial administration, with applications to problems of financial analysis, control, and planning by firms under changing economic conditions.
*Prerequisites: AF 601 and AF 610.*
3 Lect Hrs
3 Credits

**MS 630 Statistical Analysis for Managers**
Staff
Acquaints students with statistical techniques used in management decision-making and develops their ability to characterize management problems that can be solved by such techniques. Topics include descriptive statistics, probability distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation, chi square testing, analysis of variance, and decision theory.
3 Lect Hrs
3 Credits

**MS 635 Operations Management**
Staff
Familiarizes students with the analysis, planning, and control of operations and operating resources in any type of organization. Analytical techniques used in the solution of system design and operations planning and control problems will also be discussed.
*Prerequisite: MS 630.*
3 Lect Hrs
3 Credits

**MS 640 Computer and Information Systems**
Staff
Introduces students to the concepts of information systems, managerial issues concerning information systems, and the role and components of the computer in information systems. A programming language will be presented for purposes of illustrating computer programming methods and their applications in business.
3 Lect Hrs
3 Credits

**MGT 650 Organizational Theory and Behavior**
Staff
Drawing on classical and contemporary theory and research, this course examines the organization at the macro level (organizational theory) and the micro level (organizational behavior). Relevant topics at the macro level include organizational structure and complexity as well as issues of effectiveness. Relevant topics at the micro level include motivation, power, leadership, communication, conflict, and decision-making.
3 Lect Hrs
3 Credits

**MGT 660 Business and Its Environment**
Staff
Examination of the relationship of business to the external environment. The course looks at business in relation to legal, social, political, and economic systems and in relation to technological developments. The course also addresses the functioning of American industrial enterprise in the context of the international business environment, and explores how business organizations can operate effectively and responsibly in the context of the external environment.
3 Lect Hrs
3 Credits

**MKT 670 Marketing Management**
Staff
Focus on strategic decisions necessary to match organizational resources with market opportunities. Students will learn to analyze market opportunities, to develop marketing plans and marketing mix strategies, and to manage implementation and control of the marketing plan.
3 Lect Hrs
3 Credits

**MGT 689 Business Policy**
Staff
Using knowledge acquired through study of the MBA Core, students will examine diverse situations typically confronted by upper level management and will develop strategies for managing these situations. The strategies will be based on an analysis of the internal conditions of the firm and the constraints and opportunities afforded by the external environment. Students will learn to develop strategy implementation plans that describe in detail appropriate executive action.
*Prerequisites: Satisfactory completion of at least seven of the ten core courses and four advanced courses.*
3 Lect Hrs
3 Credits

**Advanced Courses**

**Accounting/Finance**

**AF 611 Intermediate Accounting**
Staff
This course acquaints students with financial accounting theory. Particular emphasis is placed on the relationship of theory to practical problems such as the limitations of traditional financial statements and asset and current liability items. Students will acquire an understanding of issues unique to corporations and complete the study of the balance sheet by examining long-term debt and equity items.
*Prerequisite: AF 610.*
3 Lect Hrs
3 Credits

**AF 612 Cost Accounting**
Staff
Examines the use of cost accounting as a means of providing quantitative information for managerial decision-making and control. Emphasizes analysis of cost behavior, cost-volume-profit relationships, budgeting, and performance measurement.
*Prerequisite: AF 610.*
3 Lect Hrs
3 Credits

**AF 613 Federal Tax Planning**
Staff
Introduces the concepts of gross income recognition, deductions, tax credits, and the income tax effects of property transactions, with emphasis on managerial decision-making and planning. These concepts are incorporated into discussion of alternative forms of business organization and the tax implications of each.
*Prerequisite: AF 610.*
3 Lect Hrs
3 Credits

**AF 625 Public Financial Management**
Staff
Examines the financial management functions performed in a non-business setting, i.e. government agencies and not-for-profit activities. Focuses on the financing, budgeting, accounting, reporting, and auditing of such entities. With particular attention to the theory and techniques of the functions listed above, the course will explore current issues.
*Prerequisites: AF 610 and AF 620.*
3 Lect Hrs
3 Credits

**AF 626 International Financial Management**
Staff
Describes the body of knowledge, attitudes, and skills required of financial decision-makers operating in a global setting. The phenomenal rise in importance of multinational business finance and concomitant issues is explored in light of recent theoretical and empirical research. Specific topics include foreign exchange risk management, financing decisions in the long and short run, currency translation, accounting, and taxation.
*Prerequisites: AF 610 and AF 620.*
3 Lect Hrs
3 Credits

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**AF 627 Health System Financial Management**
Staff
Addresses the financial management theory, techniques, and issues applicable to public and private health organizations. Specific topics include budgeting, capital formation, cost finding, reimbursement alternatives, financial analysis, and performance evaluation. Evaluates contemporary policy issues affecting the health care administrator.
*Prerequisites: AF 610 and AF 620.*
3 Lect Hrs
3 Credits

**Management**

**MGT 651 Personnel Management and Human Resources Planning**
Staff
Designed to familiarize students with concepts of human resources management and the principles of planning and forecasting for human resources needs. Issues to be addressed will include career planning and internal labor market analysis, equal employment opportunity and affirmative action practices. Students will examine job design and pay systems, methods of personnel selection and training, issues of productivity and hours of work, the effect of government regulations on working conditions, and personnel administration.
*Prerequisite: MGT 650.*
3 Lect Hrs
3 Credits

**MGT 652 Labor-Management Relations and the Collective Bargaining Process**
Staff
Familiarizes the student with the practice of labor/management relations in the United States. The nature of labor/management conflict, the development of the US labor movement, and a comparison to other Western labor movements will provide the theoretical and historical framework needed to assess the effectiveness of current practice and trends in the development of new practices and institutions. The major areas of study will be the tactics and strategies of management and union representatives and the legal and economic constraints on their behavior in the organization of unions, contract negotiation, and contract administration and interpretation.
*Prerequisite: MGT 650.*
3 Lect Hrs
3 Credits

**MGT 653 Organizational Diagnosis and Change**
Staff
Focuses on the theory, research, and techniques of organizational diagnosis and change. Students will learn how to engage in systematic structural and behavioral analyses and to design effective strategies for intervention and change.
*Prerequisite: MGT 650.*
3 Lect Hrs
3 Credits

**MGT 661 Public Management**
Staff
Examines the application of management concepts, methods, and research findings to the analysis and solution of problems confronting public managers and how public management differs from and is similar to private management The course explores the relationship of external constituencies and internal resources to effective and ethical performance of public management in the public policy process. The course looks in depth at the primary functions of public managers.
*Prerequisites: AF 601, MGT 650, and MGT 660.*
3 Lect Hrs
3 Credits

**MGT 662 Public Program Evaluation**
Staff
Explores the issues involved in and techniques applicable to evaluation of programs in the public sector. The course focuses on how to define programmatic objectives and output measures and how to develop evaluation methods and instruments. The course further addresses itself to how to implement such studies and demonstrate their worth.
*Prerequisites: MGT 660 and MGT 661.*
3 Lect Hrs
3 Credits

**MGT 663 Business-Government Relations**
Staff
Explores the relationship between government and business in the contemporary United States as well as future possible relationships. The course deals with the various kinds of public policies and governmental activities affecting business such as regulation, promotion, and ownership, and with the ways in which business affects government through participation in the policy process.
*Prerequisites: AF 601 and MGT 660.*
3 Lect Hrs
3 Credits

**MGT 665 Management: An International Perspective**
Staff
Introduces students to the perspectives and dimensions of management and organizations in settings that span national boundaries. Course materials will stress the nature, structure, dynamics, and problems faced by international and multinational organizations. Adaptive and competitive strategic behaviors of firms working in cross-national environments will be analyzed as well as the array of economic, socio-cultural, and political determinants of managerial behavior in these settings.
*Prerequisites: AF 601, MGT 650, and MGT 660.*
3 Lect Hrs
3 Credits

**MGT 680 Management of Health Organizations**
Staff
Explores the roles of the health systems manager as planner, organizer, leader, and integrator of health programs. Particular attention will be given to how these roles differ from industry's roles, as well as to the special demands made of the manager in a health systems organization.
*Prerequisite: MGT 650.*
3 Lect Hrs
3 Credits

**MGT 681 The Health System and Public Policy**
Staff
Examines the interface of government, health, and the private sector. This course will explore the various roles government plays as promoter, regulator, and buyer of health services.
*Prerequisite: MGT 660.*
3 Lect Hrs
3 Credits

**Management Sciences**

**MS 636 Operations Planning and Control**
Staff
Presents the forecasting and quality control functions of operations management. Topics include decomposition, smoothing, regression, Box-Jenkins methods, the relation of forecasting to planning, economics of quality control, and quality planning. Applications in manufacturing and in-service industries are treated.
*Prerequisites: MS 630, MS 635, and MS 640.*
3 Lect Hrs
3 Credits

# Chemistry

## Business Administration

**MS 637 Production and Inventory Management**
Staff
Provides comprehensive coverage of inventory and production systems and the use of quantitative techniques in solving managerial problems arising from the design, planning, and control of such systems. Topics include deterministic single-item models with static demand, decision systems for the case of probabilistic demand, lot sizing techniques, material requirements, planning, and scheduling for continuous and intermittent systems, and project scheduling.
*Prerequisites: MS 630, MS 635, and MS 640.*
3 Lect Hrs
3 Credits

**MS 638 Management Decision Models**
Staff
Familiarizes the student with optimization techniques of both deterministic and stochastic models which solve managerial problems. Also serves the purpose of developing the student's analytical skill to model and characterize management problems that can be solved by such models and techniques. Topics include mathematical programming, network analysis, simulation, queuing, and Markovian decision processes.
*Prerequisites: MS 630, MS 635, and MS 640.*
3 Lect Hrs
3 Credits

**Marketing**

**MKT 671 Marketing Research**
Staff
Examines marketing research as a process of providing information for the purpose of managerial decision-making. Topics include research design, implementation, evaluation, and reporting of results.
*Prerequisite: MKT 670.*
3 Lect Hrs
3 Credits

**MKT 672 Buyer Behavior**
Staff
Examines individual and organizational buying behavior with emphasis on application of concepts and research findings from the behavioral sciences to the solution of marketing problems.
*Prerequisite: MKT 670.*
3 Lect Hrs
3 Credits

**MKT 673 Advertising Management**
Staff
Examines the specific role of advertising in relation to the total marketing effort. Topics include setting advertising objectives, creating advertising campaigns, developing media strategies, and measuring advertising results.
*Prerequisite: MKT 670.*
3 Lect Hrs
3 Credits

**MKT 674 International Marketing**
Staff
Introduces the student to a systematic treatment of marketing on a global scale. Topics include the world market environment and its characteristics, identifying opportunities, and multinational marketing program development, implementation, and control.
*Prerequisite: MKT 670.*
3 Lect Hrs
3 Credits

**Faculty**

**Joseph S Alper**, PhD, *Yale University,* Theoretical Chemistry

**Jean-Pierre Anselme**, PhD, *Polytechnic Institute of Brooklyn,* Synthesis and Mechanisms of Organic Nitrogen Compounds

**Ernest I Becker**, PhD, *Western Reserve University,* Organometallic Compounds—Phytobiologically Important Compounds

**Robert L Carter**, PhD, *University of Kansas,* Structural Studies of Inorganic Solids by Infrared and Raman Spectroscopy

**Robert I Gelb**, PhD, *University of Wisconsin,* Chemistry of Electrode Processes and of Solution Equilibria

**Daniel A Laufer**, PhD, *Brandeis University,* Synthesis and Properties of Biomolecules, Polymeric Reagents

**Thomas N Margulis**, PhD, *University of California, Berkeley,* X-Ray Crystallography of Drugs and Natural Products

**Henry A Mariani**, PhD, *Boston College,* Polyaromatics; Synthesis and Use of Fluorinated Compounds in Carcinogenesis

**Paul M McDonagh**, PhD, *Lowell Technological Institute,* Reaction of $\alpha$-Hydroxycarbonyl Compounds with Hydrazine

**Peter Pappas**, PhD, *Boston University,* Isolation and Characterization of Human Plasma Proteins and Platelet Proteins

**John F Reardon**, PhD, *Boston University,* Aqueous and Non-aqueous Thermochemistry and Electrochemistry

**Lowell M Schwartz**, PhD, *Massachusetts Institute of Technology,* Physical Properties of Oxocarbons, Statistical Treatment of Data

**Hans van Willigen**, PhD, *University Of Amsterdam,* Application of Spin Resonance in the Study of Structure and Dynamics

**Chi-Hua Wang,** PhD, *St. Louis University,* Chemistry of Free Radicals in Solution

**Walter E Weibrecht**, PhD, *Cornell University,* Equilibrium Studies of Transmination of Silylamines

**Leverett J Zompa**, PhD, *Boston College,* Chemistry of Transition Metal Complexes

**The Program and Facilities**

The Master's degree program will serve graduate students with interests in applied chemical research as well as students with interests in some interdisciplinary, chemistry-related fields. The degree requirements are flexible in order to allow a student to take as many as half of his/her graduate courses outside of chemistry and to enable him/her to submit a thesis in a tangential area. We envisage candidates working in such widely diverging fields as laboratory research, chemical economics, history of chemistry, biological chemistry, and chemical writing and editing. All candidates for the degree of Master of Science are required to take one graduate chemistry course in each of the three areas of Synthesis, Structure, and Dynamics. These courses, which cut across the traditional boundaries of organic, inorganic, analytical and physical chemistry, are designed to give students of diverse backgrounds and with diverse aims a broad overview of the recent advances in chemistry. Three elective courses will allow the student to specialize in a field of his/her choice. Thus students aiming toward a research-oriented PhD degree may take a maximum number of chemistry courses and elect to work on a research project.

# Chemistry

This flexible program is designed for recent graduates as well as people having positions in high schools, community colleges and industry who are seeking advancement by extending professional training. Attempts will be made to make scheduling arrangements for those who must study part time.

The Department of Chemistry is housed in the spacious, air-conditioned Science Building at the Harbor Campus. Facilities include laboratory space for the research of sixteen faculty members, a science library, and glassblowing, machine and electronic shops.

Research facilities presently available include:

- Numerous uv, vis and ir spectophotometers
- an ORD/CD and laser Raman spectrophotometer
- nuclear magnetic resonance equipment
- electron spin resonance equipment
- a fully equipped laboratory for X-ray crystallographic studies
- instruments for flash photolysis
- a tunable dye laser
- electroanalytical and radiochemistry equipment
- analytical and preparative gaschromatographs
- extensive computing facilities
- atomic absorption spectrometers

**Degree Requirements**

The candidate is required:

1. To take six one-semester courses of which one is to be in *each* of the areas of Dynamics, Structure, and Synthesis (4 credits per course). All students *must* successfully complete (B or better) Chem 601, 611, and 621 in order to become degree candidates.
2. To participate in a seminar program. This requirement includes the oral presentation of two (2) seminars.
3. To submit and defend an original contribution (thesis) in chemistry or in a chemistry related field (10 credits maximum).

Elective courses can be selected from course offerings of other departments in the University subject to the approval of the Chemistry Graduate Committee.

For graduation the candidate needs a minimum of 30 graduate credits. Up to six credits of grade B or better may be transferred from other institutions subject to the approval of the Chemistry Graduate Committee.

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

The Chemistry Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Applicants should present:

1. A transcript of a BS or BA degree from a recognized institution.
2. Graduate Record Examination (GRE) scores (aptitude and advanced tests). Graduates of American colleges or universities are not required to present these scores, but are strongly urged to do so. The GRE is *required* of all candidates with degrees from foreign institutions.
3. Three letters of recommendation.

**Chem 601 Chemical Dynamics I**
Staff
Discussions and outside readings in the areas of chemical and physical equilibria and rate processes. Emphasis on thermodynamics from classical and statistical points of view and on chemical reaction mechanisms.
*Prerequisite: Acceptance into the Graduate Chemistry Program or permission of instructor.*
Hrs by arrangement
4 Credits

**Chem 602 Chemical Dynamics II**
Staff
Three or four selected topics of interest to students and staff involved. Typical subjects: molecular transport processes and the Kinetic Theory, photochemistry and excitation transfer processes, surface and electrode rate processes, particle collision dynamics and reactivity, irreversible thermodynamics, interaction of radiation and matter, and molecular state transitions.
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
3 Credits

**Chem 611 Chemical Structure I**
Structure determination and theory. Three or four molecules of interest to the students and faculty involved are chosen. Based on these molecules, discussions, readings and laboratory exercises attempt to show how a chemist determines each structure and how the structure is understood by modern chemical theory.
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
4 Credits

**Chem 612 Chemical Structure II**
Staff
In tutorial form. Individual students study advanced structure topics with appropriate staff members.
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
3 Credits

**Chem 621 Chemical Synthesis I**
Staff
The tactics and strategy of accomplishing the synthesis of a chemical substance. Examples of organic and inorganic systems.
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
4 Credits

**Chem 622 Chemical Synthesis II**
Staff
The synthesis and characterization of a number of representative organic and inorganic compounds.
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
3 Credits

**Chem 653 Polymer Chemistry**
Staff
An introductory survey of polymer chemistry including polymer structure and stereochemistry, characterization of polymers, categories of polymers, synthesis of reactants, and polymerizations reactions and their mechanisms. Why and how polymers are tailor made will be exemplified. Polymer chemistry as an interdisciplinary and as a unique area of chemical science will be stressed.
*Prerequisite: Chem 254 or 256, or permission of instructor.*
Hrs by arrangement
3 Credits

# Counselor Training

## Chemistry

**Chem 658 Medicinal Chemistry**
Staff
This graduate and upper level professional course presents principles of medicinal chemistry. Organized along pharmacological lines, the course considers the development and design of drugs, those a) acting on the central and peripheral nervous system; b) acting on the cardiovascular, hematopoietic and renal systems; and c) those acting as chemotherapeutic agents, vitamins, and hormones. Special emphasis is given to drugs used in emergencies and to drugs described in the *United States Pharmacopeia* and the *National Formulary*. Syntheses of important compounds in the various categories are presented.
*Prerequisite: Chem 254 or equivalent.*
Hrs by arrangement
3 Credits

**Chem 691 Seminar I**
Staff
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
1 Credit

**Chem 692 Seminar II**
Staff
*Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.*
Hrs by arrangement
1 Credit

**Chem 693 Topics in Physical Chemistry**
Staff
Topical discussions, each based on elementary principles of physical chemistry and progressing toward recent developments in the field. Open to graduates and advanced undergraduates.
*Prerequisite: Chem 341 and 369, or equivalent.*
3 Lect Hrs
3 Credits

**Chem 694 Topics in Organic Chemistry**
Staff
Topical discussions of selected topics of current interest in organic chemistry. Open to graduates and advanced undergraduates.
*Prerequisite: Chem 254 or 256, or equivalent.*
3 Lect Hrs
3 Credits

**Chem 695 Topics in Inorganic Chemistry**
Staff
Topical discussion of selected topics of current interest in inorganic chemistry. Open to graduates and advanced undergraduates.
*Prerequisite: Chem 370, or equivalent.*
3 Lect Hrs
3 Credits

**Chem 696 Independent Study**
Staff
Study of a particular area of chemistry under the supervision of a faculty member.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
1-10 Credits

**Chem 697 Readings in Chemistry**
Staff
Graduate level readings in various areas of Chemistry under the supervision of a faculty member.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
1-10 Credits

**Chem 699 Master's Thesis**
Staff
Open to degree candidates.
Hrs by arrangement
1-10 Credits

### Faculty

**Peter Cohen**, EdD, *Duke University*, Vocational Counseling

**J Edward Conners**, EdD, *Boston University*, Psychopathology, Counseling Theory and Practice

**Raymond R Gilbert**, PhD, *Harvard University*, Personality Theory, Psychology of the Penal Offender

**Robert A Gracia**, PhD, *Boston College*, Group Dynamics, Guidance

**Alan E Hastings**, PhD, *Western Colorado University*, Psychodiagnosis

**Varda Konstam**, PhD, *Fordham University*, Family Counseling

**Michael McCarthy,** PhD, *Boston University*, Research Methods

**Bianca Cody-Murphy**, EdD, *Boston University*, Counseling Theory and Practice

**Arthur J O'Shea**, PhD, *Boston College*, Psychological Testing, Psychology of Careers

**Jerrold M Pollak**, PhD, *Boston College*, Counseling Theory and Practice

**Richard Reinkraut**, PhD, *University of Connecticut*, EdD, *Harvard University*, Counseling Theory and Practice

**John J Shea**, EdD, *University of Massachusetts, Amherst*, Alcoholism Counseling

**Samuel E Toto**, EdD, *Boston University*, Psychodiagnosis

**Jon T Walek**, EdD, *Boston University*, Personality Theory, Counseling Theory and Practice

### The Program

The Master of Education in Counselor Training Program allows the student to concentrate in one of several counseling areas: community, rehabilitation, school, or alcoholism. Through coursework and fieldwork experiences, students are prepared for professional positions in many settings—clinics, residential treatment facilities, hospitals, schools, rehabilitation agencies, career planning centers, employee assistance programs, and other mental health services. The program also prepares prospective candidates for doctoral study in counseling psychology.

The Counselor Training Program gives students a background in the basic principles and theories of psychology, and enables students to acquire specific skills in counseling and assessment. Practicum training sites are available in a variety of mental health, educational, and rehabilitation facilities. The practicum is the most critical part of the program and includes on-site professional supervision as well as seminar meetings at the University. The school track meets the current certification standards of the Commonwealth of Massachusetts.

In order to accommodate many students in the program who hold full-time positions, courses are offered late afternoons and evenings and meet once a week.

### Degree Requirements

Candidates in each of the four tracks must complete a sequence of core courses, a two-semester practicum, and a 15-hour concentration in their track. They must also pass a written comprehensive examination.

All candidates for the MEd degree must complete the following core courses: Coun 601, 605, 607, 608, 613, 614, 698 (two semesters).

# Counselor Training

**Each concentration requires additional courses as follows:**

Community Counseling
Coun 616, SchPsy 606, 3 electives

School Counseling
Coun 610, 613, 616, 622, 1 elective

Rehabilitation Counseling
Coun 602, 613, 662, 671, 1 elective

Alcoholism Counseling
Coun 613, 670, 673, 674, 675, 1 elective

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

The Counselor Training Program will recommend admission for applicants who present evidence of their ability to complete a graduate course of studies with distinction. Such evidence will normally include:

1. A minimum of five courses in psychology with an average of at least 3.0.
2. A distinguished undergraduate transcript with at least a 3.0 overall average.
3. Graduate Record Examination aptitude scores or a score on the Miller Analogies Test (MAT) or a score on the Test of English as a Foreign Language (TOEFL) for applicants for whom English is a second language.
4. A written statement by the applicant expressing his or her reasons for requesting admission to the program.
5. An interview with a member of the Counselor Training faculty.

**Certificate of Advanced Graduate Study (CAGS)**

The CAGS in Counselor Training Program serves the needs of persons who hold the master's degree in counseling or its equivalent and who seek additional professional and personal development in a planned and structured sequence of graduate level courses.

Each candidate develops, with the assistance and approval of the Graduate Program Director, an individualized program of ten courses which addresses his or her needs, interests, and aspirations while satisfying the requirement that a CAGS course of study have a clear focus and rationale. In addition, each candidate completes a supervised practicum experience in a school, clinic, or agency.

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

Candidates for the CAGS in Counselor Training must:

1. Hold a master's degree in counseling or its equivalent with a minimum average of B+.
2. Submit a written statement expressing his or her reasons for requesting admission to the program.
3. Have an interview with a member of the Counselor Training faculty.

**Coun 601 Research and Evaluation in Psychology**
Mr McCarthy
A variety of approaches to investigative research are examined. Review of rationale and methodologies associated with various research strategies is undertaken. Relevant statistical topics are developed conceptually especially as related to specific applied academic settings. The course requires a scholarly written critique of a recent journal article in the student's area of specialization.
3 Lect Hrs
3 Credits

**Coun 602 Medical and Neurological Orientation to Rehabilitation Counseling**
Staff
The course is designed to offer students with little or no exposure to advanced life sciences the opportunity to examine the physiological and anatomical basis for many chronic diseases with which they will work in a rehabilitation counseling setting. Students are presented with the etiology, progress, and potential resolution of a wide range of disorders as well as the psychological impact and limitations placed on patients by their diseases.
3 Lect Hrs
3 Credits

**Coun 605 Group Psychological Testing**
Mr O'Shea
A survey of standardized tests used in assessing aptitudes, interests, and personality traits. The course covers technical and methodological principles and social, ethical, and legal implications of psychological testing.
3 Lect Hrs
3 Credits

**Coun 607 Theories of Personality**
Mr Gilbert
This course is designed to lead to an understanding of the issues underlying the development of personality theory and personality constructs. Personality theory and current research will be examined through three central perspectives: Psychoanalytic Theory, Social Learning Theory, and Cognitive Development Theory. Measurement, assessment, and validation issues will also be addressed.
3 Lect Hrs
3 Credits

**Coun 608 Abnormal Psychology**
Mr Conners
A comprehensive view of abnormal behavior in modern times. The course will make use of the revised D.S.M.III classification systems of mental disorders and will examine patterns of abnormal behavior including: neuroses, psychosomatic conditions, psychosis including affective disorders, schizophrenias, behavior of childhood and adolescence, sexual dysfunctions, and drug abuse. There is also a brief coverage of therapeutic treatments and their effectiveness.
3 Lect Hrs
3 Credits

**Coun 610 Principles of Guidance**
Mr Gracia
The basic philosophy, scope, and techniques of guidance in schools are reviewed and analyzed. Discussion of practical issues relevant to school counseling: the school as an institution; relations between counselor, administrators, teachers, and parents; developmental education; sex education; counseling standards and legislation; roles of the school counselor; professional development.
3 Lect Hrs
3 Credits

# Counselor Training

**Coun 613 Vocational Development and Career Information**
Mr Cohen
The vocational development aspect of the course will concentrate upon the theories of Roe, Holland, Ginzberg, Super, and Tiedeman. The career information component, upon which there will be a major emphasis, will direct the student to locate and use sources of educational-vocational information. These sources will include but not be limited to the *Dictionary of Occupational Titles, Occupational Outlook Handbook, Guide to Occupational Exploration*, local labor market information, military careers, evaluation of occupation-education information, college and vocational school guides and catalogues.
3 Lect Hrs
3 Credits

**Coun 614 Counseling Theory and Practice I**
Ms Cody-Murphy
The purpose of this course is to provide grounding in the commonalities of counseling techniques and provide practice in utilizing various techniques. The course will cover the essentials of interviewing, note taking, report writing, and the role of diagnosis. Tapes and role playing will be required.
3 Lect Hrs
3 Credits

**Coun 615 Counseling Theory and Practice II**
Staff
This course is an extension of Counseling Theory and Practice I. Major theoretical approaches (dynamic, humanistic, behavioral) are considered. There will also be exploration of some non-traditional approaches. Use of tape recordings, films, written records of interviews, and role playing.
3 Lect Hrs
3 Credits

**Coun 616 Group Counseling and Group Dynamics**
Mr Gracia
An introduction to group dynamics which uses the group process of the class group as a source of experience of group membership and to provide data for interpretation. Participation as a group member is required. Readings and lectures will build a cognitive base for evaluating the experiential learning.
*Prerequisite: Coun 614.*
3 Lect Hrs
3 Credits

**Coun 619 Psychology of Learning**
Mr McCarthy
The basic procedures, experimental findings, general and theoretical issues are presented as representing the current status of investigation in the psychology of learning. Included in this presentation are such topics as: motivation, reinforcement, punishment, behavioral engineering, stimulus control, discrimination, generalization, abstraction, concept-formation, transfer of training, cognition, verbal learning, and language acquisition.
3 Lect Hrs
3 Credits

**Coun 622 Family and Parental Counseling**
Ms Konstam
This course examines theories of family dysfunction and treatment from a systems perspective including the dynamics of family interactions, development tasks of the family life cycle, communication and structural theory, systems inventories, and family interviewing skills training.
*Prerequisite: Coun 614.*
3 Lect Hrs
3 Credits

**Coun 662 Rehabilitation of the Penal Offender**
Mr Gilbert
This course will provide graduate students with a psychological perspective on crime and criminal justice in the United States. The course will focus on current explanations of offender behaviors and treatment efforts to change them. It will attend to the various ethical and "effectiveness" issues raised by critics of rehabilitation. Diagnostic and therapeutic roles and strategies of psychologists will be explored as they have developed in institutional and community settings.
3 Lect Hrs
3 Credits

**Coun 664 Child Abuse and Neglect**
Staff
This course addresses the growing problem of child abuse and neglect in American society. Psychodynamic and socio-cultural factors that contribute to child abuse will be explored. Emphasis will be placed on prevention, intervention, treatment, and the legal aspects of abuse and neglect.
3 Lect Hrs
3 Credits

**Coun 670 The Use and Abuse of Alcohol in Society**
Staff
This course surveys the broader problems caused by the abuse of alcohol in modern society. It presents and analyzes normatic data. Part of the course is devoted to a study of the physiological consequences of abusive drinking. The course will also consider poly-drug abuse, the family of the alcoholic, Alcoholics Anonymous, and the relationship of the criminal justice system to alcoholism rehabilitation. Students will visit various kinds of agencies that make up the community-based treatment system.
3 Lect Hrs
3 Credits

**Coun 671 Employee Assistance Programming**
Staff
This course focuses on the historical development of and current critical issues in employee assistance programming. It also considers the major elements and procedures in employee assistance programs with special emphasis on industrial organizations.
*Prerequisite: Coun 670.*
3 Lect Hrs
3 Credits

**Coun 672 Alcoholism and the Family**
Staff
This course will emphasize the ways families with alcoholic members function. The course will explore methods and resources available for helping such families.
*Prerequisite: Coun 670.*
3 Credits

**Coun 673 Alcoholism Counseling and Therapy**
Staff
Students in this course become familiar with the techniques and tactics associated with various methods of treating people addicted to alcohol. It offers instruction and supervised practice in treatment approaches, for example, Alcoholics Anonymous, milieu therapy, transactional analysis, and reality therapy.
*Prerequisite: Coun 670.*
3 Credits

**Coun 674 Psychopharmacology of the Drug Ethanol**
Staff
This course considers the nature of ethanol and the ways it affects alcoholics in mind and body before, during, and after treatment.
*Prerequisite: Coun 670.*
3 Credits

# Critical and Creative Thinking

## Counselor Training

**Coun 675 Organization and Administration of Alcoholism Treatment Facilities**
Staff
Students in this course become familiar with the management and operation of the six institutional components important to a total alcoholism rehabilitation network. The role and function of both state-level and Federal agencies will be discussed. Coursework will include: community organizations, assessing community needs, use and abuse of negotiation skills, and the leadership role of the alcoholism services administrator. Other subjects introduced are: record keeping, fiscal management, legal, ethical and moral standards applicable to alcoholism treatment, Board/Director/Staff Relationships, Volunteerism, and Gate-Keeping.
3 Lect Hrs
3 Credits
(Subject to final approval.)

**Coun 696 Independent Study in Counselor Training**
Staff
This course involves the comprehensive study of a particular topic or a fieldwork experience under the direction of a faculty member. A detailed proposal must be submitted to the faculty member prior to registration.
3-6 Credits

**Coun 697 Special Topics in Counselor Training**
Staff
An advanced course offering intensive study of selected topics in Counseling Psychology. Course content will vary according to the topic and will be announced prior to registration.
3-6 Credits

**Coun 698 Practicum in Counselor Training**
Staff
Students are placed as apprentice counselors in schools or agencies under the direct supervision of professionals. Students meet weekly on campus in a three-hour seminar.
*Prerequisites: Coun 605, 607, 608, 614, 615.*
6 Credits

**Faculty**

**Edmund Beard**, PhD, *Columbia University*, Public Policy Formation and Implementation (Political Science Department)

**Augusto Blasi**, PhD, *Washington University*, Developmental Psychology, Adolescence, and Personality (Psychology Department)

**Lawrence Blum**, PhD, *Harvard University*, Ethics and Moral Philosophy (Philosophy Department)

**Ruth Butler**, PhD, *New York University*, History of Sculpture, 19th and 20th Century Art (Art Department)

**Dennis L Byrnes**, PhD, *Brandeis University*, Human Memory and Learning (Psychology Department)

**Delores Gallo**, EdD, *Harvard University*, Elementary Education, Creativity and Learning (Critical and Creative Thinking Program)

**Claire Golomb**, PhD, *Brandeis University*, Symbol Formation in Child Art and Dramatic Play (Psychology Department)

**Thomas N Margulis**, PhD, *University of California at Berkeley*, Crystallography, Structural Chemistry, Science Education (Chemistry Department)

**Jane Martin**, PhD, *Harvard University*, Philosophy of Education, Philosophy of Action (Philosophy Department)

**Arthur Millman**, PhD, *University of Chicago*, Philosophy of Science and Technology, and Scientific Method (Philosophy Department)

**John R Murray**, EdD, *University of Massachusetts at Amherst*, Biology and Science Education (Critical and Creative Thinking Program)

**Steven Schwartz**, PhD, *University of Illinois*, Learning, Perception, Statistics (Psychology Department)

**A P Simonds**, PhD, *Harvard University*, History of Politics (Political Science Department)

**Carol Smith**, PhD, *Harvard University*, Cognitive Development in Children and Adults, History of Science (Psychology Department)

**Shula S Sommers**, PhD, *Boston University*, Personality, Human Emotions, Affective Development (Psychology Department)

**Irvin Stock**, PhD, *Columbia University*, The Novel and Drama; Literature as a Reflection of the Moral Life (English Department)

**Robert Swartz**, PhD, *Harvard University*, Theory of Knowledge, Moral Education, Philosophy of Education (Philosophy Department)

**Helen Tager-Flusberg**, PhD, *Harvard University*, Language Development, Cognitive Development, Language and Cognition Disorders (Psychology Department)

**Harold B Thurman**, MA, *University of Louisville*, Practicing Artist; Graphic Design, Art Education (Art Department)

# Critical and Creative Thinking

### The Program

The Critical and Creative Thinking Program is an interdisciplinary graduate program primarily involving philosophy, psychology and education. It offers a MA degree and various non-degree possibilities for those not interested in the MA. The CCT Program is designed to provide teachers, curriculum developers, and other interested persons both with an understanding of the processes of critical thinking and creativity and with ways of helping others develop these basic skills in a variety of formal and informal educational settings, especially including elementary, middle, and secondary schools. This is accomplished through the integration of the following: psychological studies of the scope, limits, and techniques of critical and creative thought, information processing, and conceptual learning in children and young adults; philosophical studies of the techniques of reasoning, argument, logical thinking, valuing, and judging; and educational techniques for stimulating creativity, critical thought, and their expression, in children and adolescents.

In addition to general courses in these areas, the program offers four areas of specialized courses concerning the application of critical and creative thinking skills. These are:

Moral Issues and Moral Education

Criticism and Creativity in Literature and the Arts

Experiment, Discovery and Application in Science and Technology

Pre-College Philosophy

One primary goal of the CCT Program is to help practicing teachers and other educators translate what they learn in CCT into strategies, materials and curriculum interventions for use in their own classrooms or educational settings. The program combines on-campus classroom work with on-site assistance in implementing the practical aspect of the program in the schools or programs of the teachers actively involved in the program. This assistance will be provided by a member of the staff of the Institute for Learning and Teaching at UMass/Boston.

### Degree Requirements

Thirty graduate credits are required to complete this program. The normal length of time that it will take to finish the program is two years. Courses will be offered in the late afternoon, evening, and/or Saturday mornings, as well as during the summer, to suit the scheduling needs of teachers.

The program has six components:

1. A sequence of two core courses in Critical Thinking and Creativity to be taken at the beginning of the program (6 credits)
2. Two advanced core courses in philosophy and psychology about thinking (6 credits)
3. Specialty courses in the above-mentioned applied areas (3 credits)
4. Electives from philosophy, psychology, and other departments (6 credits)
5. A practicum course and an evaluation seminar in which curriculum interventions are developed, implemented, evaluated, and modified (6 credits)
6. A supervised thesis program (3 credits)

The thesis submitted at the end of the program will show evidence of mastery of philosophical and psychological material, and the ability to use these in the classroom. The thesis may be based on the student's curriculum project.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Critical and Creative Thinking Program will admit those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript with at least an average of B or 3.0.
2. At least three positive and informed letters of recommendation submitted by persons who are knowledgeable about teaching, who have worked closely with the applicant, and who have direct knowledge of the applicant's teaching skills.

In addition, applicants may submit results of the Graduate Record Examination (GRE) or the Miller Analogy Test (MAT) and evidence of teaching competency, such as curriculum projects or lesson plans.

**CCT 601 Critical Thinking**
Ms Gallo, Mr Swartz
This course will explore issues about the nature and techniques of critical thought, viewed as a way of thinking aimed at minimizing error and irrationality in our beliefs and attitudes. Views about observation and interpretation, reasoning, and inference, and valuing and judging will all be considered in this general context, with special reference to questions about how we can help others to develop the skills needed to do these things well, especially through our standard educational structures.
3 Lect Hrs
3 Credits

**CCT 602 Creativity**
Ms Gallo, Mr Schwartz
The main purpose of this course is to increase participants' understanding of creativity, to improve their creative problem-solving skills, and to enhance their ability to promote these skills in others, in a variety of educational settings. Students will be asked to participate in activities designed to develop their own creativity. The creative process will be discussed from various theoretical perspectives. Literature on creative persons, or environments that tend to enhance creative functioning, and on related educational issues will also be included. We will invite those especially involved in the creative process, including artists and scientists, to discuss their own techniques and ways in which creativity can be nurtured.
3 Lect Hrs
3 Credits

**CCT 611 Seminar in Critical Thinking**
Staff
Research on and discussion of important issues of current concern about critical thinking. This seminar will treat topics such as: critical thinking, logic and knowledge; critical thinking about facts and about values: is there a difference?; artificial intelligence models of critical thinking; teaching to be critical; and evaluating critical thinking skills.
3 Lect Hrs
3 Credits

**CCT 612 Seminar in Creativity**
Staff
The seminar will focus on research and discussion of some of the important issues of current concern in the field of creativity. It will analyze work on the creative person, the creative process, and the development of creative performance in both the fields of art and science. It will draw on materials from a variety of sources including biography, intellectual histories, psychological studies and educational research. The topics dealt with will include: perspectives on the creative process: from logical extension to intuitive leap; distinguishing scientific and artistic creativity: the process; distinguishing scientific and artistic creativity: the person; the role of insight; demythologizing creativity; social context and creative productivity; evaluating creativity; educating for creativity.
3 Lect Hrs
3 Credits

# Critical and Creative Thinking

**CCT 620 Moral Education**
Ms Martin, Mr Swartz
A comprehensive analysis of the basic issues in moral education from an interdisciplinary perspective. Philosophical studies of the nature of morality and the moral life will be integrated with psychological studies of moral development and human motivation and brought to bear on issues in teaching morality, especially in elementary and secondary schools in a democratic society. Topics covered will include: rationality, emotion, and motivation in moral action; the moral life and the aims of moral education; the moral development of children; moral education vs indoctrination; socialization, the "hidden curriculum," and moral education. Throughout this course theoretical insights will be applied to an examination of materials, programs, and practices in moral education, both in schools and in the wider community.
3 Lect Hrs
3 Credits

**CCT 625 Seminar in Moral Education**
Staff
Research on and discussion of issues of current concern about morality, human development, and education. This seminar will treat topics such as: skills in moral decision-making and in moral action; knowledge and desire in morality; moral responsibility; does the moral development of boys and girls differ?; moral emotions; indoctrination; evaluating moral development; and moral education through literature.
3 Lect Hrs
3 Credits

**CCT 630 Criticism and Creativity in Literature and the Arts**
Staff
Expression and evaluation, freedom and discipline, creative production and its critique—how do these dualities relate to visual and verbal imagination as they are demonstrated in literature and the arts? Specific strategies for eliciting imaginative work in these areas will be demonstrated, as will specific strategies for evaluating imaginative works. Finally, this course will focus on ways of helping others (including children) to develop these skills and effectively utilize these strategies.
3 Lect Hrs
3 Credits

**CCT 635 Seminar in Criticism and Creativity in Art**
Staff
Research on and discussion of some of the important issues of current concern in the fields of art criticism and the analysis of creativity in the arts. The course will draw on research from the fields of psychology, philosophy, and art criticism. Retaining the program's interdisciplinary nature, the course will offer opportunities for intellectual synthesizing. It will focus on issues of definition and evaluation in the arts and the implications for instruction. The seminar will treat topics such as perception and judgment in the arts; modes of representation and creative expression in the arts; intention and meaning in art criticism; truth in the arts; art and morality; aesthetic attitude, experience, and aesthetic standards; criticism in aesthetic education; evaluating creativity in the arts.
3 Lect Hrs
3 Credits

**CCT 640 Critical and Creative Thinking in Science and Technology**
Staff
This course will explore issues about experiment, discovery, and application in science and technology, and the professional, social and moral issues to which these give rise. These issues will be developed through discussion of topics such as: inquiry and problem-solving in science; hypothesis formation; observation and experiment; theories, paradigms, and revolutions in the history of science; relationships between common sense and science; similarities and differences between critical and creative thinking in science and in other fields; problems in the social control of science and technology. Such examples as the space program, the discovery of the structure of DNA, genetics and genetic technology, risk-benefit analysis of nuclear technology, the role of women in science, and the controversy over ESP will be explained in depth and detail and related to more general themes about critical and creative thinking in science and technology. Implications of this study for science teaching in both elementary and secondary schools will be discussed.
3 Lect Hrs
3 Credits

**CCT 645 Seminar in Scientific Thinking**
Staff
Research on and discussion of issues of current concern about scientific thinking. This seminar will treat topics such as: observation and theory in scientific thinking; science and pseudoscience; conceptual change in children and adults; the impact of views of cognitive development on the teaching of science; scientific revolutions; and creative problem-solving in science.
3 Lect Hrs
3 Credits

**CCT 652 Children and Science**
Mr Murray, Ms Smith
This course explores the ways children think about their natural and social world and how this affects their learning of science. We will be particularly concerned with identifying and describing the organized conceptual frameworks children have prior to instruction (which typically are different from the scientists' conceptualizations) and with understanding the general processes by which conceptual frameworks can be changed. One important question concerns in what ways children are fundamentally different types of learners and thinkers from adults and in what ways they are fundamentally similar.
3 Lect Hrs
3 Credits

**CCT 685 Seminar on Issues in Educational Evaluation**
Staff
A critical study of the nature, techniques, scope and limits of the major forms of educational evaluation, set in the context of broader issues about evaluation. Special emphasis will be put on the nature of quantitative and qualitative methods of educational evaluation. Part of class time will be spent on issues that arise in connection with the evaluation of specific curriculum projects and teaching techniques of teachers involved in the seminar.
3 Lect Hrs
3 Credits

**CCT 696 Independent Study**
Staff
This course involves the comprehensive study of a particular topic or area of literature determined by the student's need; the study is pursued under the guidance, and subject to the examination, of the instructor. An application or outline of study should be submitted to the instructor by the end of the semester previous to that in which this course is to be taken.
1-6 Credits

# Education (Elementary and Secondary)

## Critical and Creative Thinking

**CCT 697 Special Topics**
Staff
This advanced course will offer intensive study of selected topics in the field of critical and creative thinking. The course content and credit will vary according to the topic and will be announced during the advance registration period.
3 Lect Hrs
3-6 Credits

**CCT 698 Practicum**
Staff
Supervised planning and implementation of an educational intervention which is designed to enhance critical and/or creative thinking skills.
3 Credits

**CCT 699 Thesis Research**
Staff
A one-semester supervised practicum course designed to help students to complete the required thesis. The thesis shall be a substantial piece of research on some facet of the thinking process as it can be applied to one of the substantive specialty areas or exemplification in a curriculum intervention. It may take the form of a theoretical paper or an empirical study.
3 Credits

**Departmental Courses (Required)**

**Phil 601 Foundations of Philosophical Thought**
Staff
By discussing four or five traditional substantive problems in philosophy—morality, the nature of knowledge, freedom of the will, the nature of mind, and social organization—we will attempt to derive a common approach that philosophers bring to these problems when developing their own solutions and criticizing the solutions of other philosophers. We will also consider some of the ways that substantive issues and debates in philosophy relate to contemporary non-philosophical issues in our society and can be introduced into a broad range of educational environments outside standard philosophy courses.
3 Lect Hrs
3 Credits

**Psych 650 Cognitive Psychology**
Staff
A survey of the field of cognitive psychology from an information-processing viewpoint. This course will consider how people encode, organize, transform and output information. Emphasis will be placed on such topics as concept formation, problem-solving, and creative thinking.
3 Lect Hrs
3 Credits

**Electives**

Electives may be chosen from the relevant departmental and special topics CCT courses, 300-level or above, with permission of the program.

**Faculty**

**Ann M DePlacido**, EdD, *Boston College,* Administration and Supervision in Curriculum

**Richard Finn**, PhD, *Boston College*, English Education

**Dolores Gallo**, EdD, *Harvard University,* Critical and Creative Thinking

**John A Lutts**, PhD, *University of Pennsylvania*, Computer Education

**Herbert Malick**, PhD, *Boston College,* Mathematics Education

**Jane A Martin**, PhD, *Radcliffe College*, Philosophy of Education

**Charles F McCarthy**, EdD, *Boston University,* Critical Issues in Education

**Perry Miller**, EdD, *Boston University,* Learning Disabilities, Pediatric Psychology, Educational Measurement, Elementary Education

**John R Murray**, EdD, *University of Massachusetts, Amherst*, Science Education

**Jean M Phelan**, EdD, *Boston University,* Learning Styles—Elementary Education

**Marilyn M Pula**, EdD, *Boston University,* Media, Library Science, Children's Literature

**Mary E Rice**, PhD, *Boston College,* Reading, Language Arts and Curriculum in Elementary Education

**John J Santosuosso**, EdD, *Columbia University,* Leadership Skills

**Robert D Sullivan**, EdD, *Boston University,* Guidance Counseling in the Elementary School

**Robert Swartz**, PhD, *Harvard University,* Critical and Creative Thinking

**The Program**

The Education Program is an interdisciplinary MEd program involving appropriate disciplines in the liberal arts and in education.

Each of the two specialty tracks, one in elementary and one in secondary education, provides a number of options aimed at the specific needs of the candidate. These options involve three courses plus a concluding practicum. The first of these courses will focus on issues dealing specifically with the candidate's teaching area. The second and third courses will provide instruction in substantive areas relating to that teaching area. The concluding practicum will allow each student to develop a program involving actual modifications of his or her curriculum or mode of instruction based on work the student has done in the program.

All students are required to take the following core courses: CCT 601, 602, 620, and Educ 610 and 698. The required courses from the Critical and Creative Thinking Program deal with the thinking processes, cognitive skills, values, and their enhancement of both elementary and secondary instruction.

Students must take at least one of the following core electives: Educ 616. 617, 618, 619. These courses probe the broad educational and social issues that have an impact on teaching.

In addition, students must take two courses from the other offerings in the Education Program or from another program if such courses relate to the candidate's teaching field. Students must obtain the permisson of the Program Director in order to take courses from another program.

# Education (Elementary and Secondary)

**Degree Requirements**

Thirty-three credits (not including lower level undergraduate courses the student may be required to take) are required for the completion of either track of the Education MEd.

All students must take a final Comprehensive Examination covering a significant portion of their course work.

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

Applicants for the Master of Education must present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript.
2. A grade point average of 3.0 in undergraduate courses in Education.
3. Evidence of satisfactory grades in the major discipline (secondary education track candidates).
4. Three positive and informed letters of recommendation submitted by persons who are knowledgeable about teaching. At least one of these letters should be from a person who serves, or has served in a supervisory capacity to the candidate.
5. Documentation of two or more years of successful teaching experience, or its equivalent.
6. Submission of Graduate Record Examination (GRE) or Miller Analogies Test (MAT) Scores.
7. A written statement explaining the candidate's rationale for pursuing the graduate degree in Education.

Applicants may be required to take additional undergraduate courses in the major discipline if their transcript indicates an insufficient academic base for enrollment in upper level courses.

**Educ 604 Philosophical Foundations of Education**
Staff
An introduction to the more prominent philosophies that have influenced our contemporary educational institutions. Emphasis will be placed on American philosophical schools and movements.
3 Lect Hrs
3 Credits

**Educ 605 Education: Socio-Cultural Perspectives**
Staff
Educational organizations are viewed through the broader context of the socio-cultural order. Considerable emphasis is placed on the origins and nature of our cultural value system and the manner in which it molds and shapes our educational institutions.
3 Lect Hrs
3 Credits

**Educ 610 Computers and Education**
Staff
Introduction to how micro-computers work, including some "hands on experience" for both beginners and students with some experience in the use of micro-computers. This course will contain a selected survey of current CAI Computer Literacy Programs at the Elementary and Secondary levels, and of currently available educational software for micro-computers. Participants will also explore the pedagogical issues raised by the use of micro-computers for students, teachers, and school administrators: Consequences for Learning, Problem Solving, Organizing Data, Creativity, etc. Field research may necessitate access to a micro-computer in a school setting.
3 Lect Hrs, additional Field Work Hrs by arrangement
3 Credits

**Educ 616 Issues in the Teaching of Mathematics**
Staff
This course will examine the nature of the entire mathematics curriculum for all students and evaluate a number of methods which have been developed to meet the challenges in instruction which face the classroom teacher of mathematics today. Discussion will include the nature of investigations and problem solving in the teaching process and procedures that enhance thinking in the study of mathematics rather than simply the production of correct answers.
3 Lect Hrs
3 Credits

**Educ 636 Individually Guided Education**
Staff
Individually guided education stresses the adaptation of various instructional methods to individual differences and to the continuous improvement of such instruction. The course examines new forms of behavior for teachers, various learning options for students based on their mapped cognitive learning styles and a revised form of school organization and administration.
3 Lect Hrs
3 Credits

**Educ 641 Contemporary Issues in Education**
Staff
This course will analyze contemporary problems that affect issues in education. The principal focus will be on such issues as: goals, fiscal responsibility, structure and operation of public and private education at local, state and federal levels, race relations and busing.
3 Lect Hrs
3 Credits

**Educ 643 Behavior and Classroom Management**
Staff
This course explores a diverse range of strategies and techniques that may be used to eliminate or alleviate dysfunctional and/or disruptive behavior in the contemporary mainstreamed classroom.
3 Lect Hrs
3 Credits

**Educ 696 Independent Study**
Staff
This course involves the comprehensive study of a particular topic or area of literature determined by the student's need; the study is pursued under the guidance, and subject to the examination, of the instructor. An application or outline of study should be submitted to the instructor by the end of the semester previous to that in which Educ 696 is to be taken.
3 Lect Hrs
3 Credits

**Educ 697 Special Topics**
Staff
This advanced course will offer intensive study of selected topics in the field of education. The course content and credit will vary according to the topic and will be announced during the advance registration period.
3-6 Lect Hrs
3-6 Credits

**Educ 698 Practicum in Education**
Staff
This course will provide the student with an opportunity to put into practice the new theories and concepts acquired in the program. Each student will work individually and will develop actual modifications of his or her curriculum or mode of instruction and utilize the results in the classroom.
Hrs by arrangement
3 Credits

# Educational Administration

### Faculty

**Lawrence Creedon**, EdD, *Boston University*, Facilities Design and Management, Labor Relations and Collective Bargaining

**Richard P Finn**, PhD, *Boston College*, Contemporary Problems in Education, Curriculum: Theories, Development and Evaluation

**Virginia E Garland**, PhD, *University of Connecticut*, Principalship, Computer Systems for School Administrators

**John Looney, Jr**, EdD, *Boston University*, Education and the Political Process, Case Studies in Administration

**Jean MacCormack**, EdD, *University of Massachusetts at Amherst*, Community Relations

**Herbert Malick**, PhD, *Boston College*, Research Project, Practicum and Seminar in Educational Administration

**Jane Martin**, PhD, *Harvard University*, Philosophical Foundations of Education

**Charles F McCarthy**, EdD, *Boston University*, Director of Graduate Degree Programs in Educational Administration, Organizational Analysis, Organizational Change

**John F Monbouquette**, PhD, *Boston College*, Fiscal Management

**Joan G O'Sullivan**, PhD, *Boston University*, Philosophical Foundations of Education

**Jean Phelan**, EdD, *Boston University*, Research Design, Curriculum: Theories, Development and Evaluation

**John F Santosuosso**, EdD, *Columbia University*, School Principalship, Leadership Development

**R Timothy Sieber**, PhD, *New York University*, Socio-Cultural Foundations of Education

**Charles Smith**, PhD, *Boston College*, The Law of Public Education

### The Program

The MEd Program in Educational Administration is designed for educators who aspire to mid-level administrative or supervisory positions in schools or related institutions. For those who plan to prepare for top-level positions in educational administration, the program serves as a foundation for further graduate study.

All students in the program enroll in a group of core courses providing a comprehensive view of educational administration and in a practicum involving supervised work in the field. Each student also chooses, in consultation with his or her advisor, additional courses appropriate to an area of specialization. To meet a range of student interests and career goals, the program offers the following areas of specialization: Principal; Supervisor/Director; School Business Administrator.

### Degree Requirements

A minimum total of thirty-six graduate credits is required to complete this program. Courses are generally offered at times to accommodate the educational practitioner, i.e., late afternoon, evening and during the summer months.

A core of courses forms the nucleus of this program. These courses are required of all students for graduation.

Students matriculating in this program are expected to either take a course in computer literacy as part of their requirements or provide acceptable documentation that they are reasonably knowledgeable about this area.

A practicum in educational administration is required of all students.

All students must pass a Final Comprehensive Examination covering a significant portion of their course work.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Educational Administration Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence normally includes:

1. A distinguished undergraduate transcript with, for the most part, an average of B or 3.0 in the undergraduate education major.
2. Three letters of recommendation from persons familiar with the candidate's teaching competency and leadership potential.
3. Documentation of two or more years of successful teaching experience and appropriate certification credentials.
4. Submission of the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT) scores.
5. A written statement of 800 to 1200 words setting forth the applicant's reasons for pursuing a graduate program in educational administration.
6. A sufficient academic background in education. The applicant may be asked to take undergraduate courses in education if course transcripts indicate deficiencies in certain areas.

### The Certificate of Advanced Graduate Study in Educational Administration (CAGS)

The CAGS Program in Educational Administration builds on the administrative/supervisory theory, processes, and skills that form the basis of the Master Degree Program in Educational Administration. The central focus of this program is the human variable in all of its diverse complexity; as it is generally perceived, that a sound understanding and appreciation of this variable lies at the heart of success in any organizational leadership capacity.

Accordingly, the core of required courses that comprise this program have, as their central theme, the nature of the human variable, and the implications of this knowledge for those who aspire to leadership positions in educational organizations.

In conjunction with the group of required courses that form the core of this program, the student will select appropriate elective courses in keeping with his or her area of specialization, needs, and interests.

# Educational Administration

**Certificate Requirements**

The applicant to this program will be expected to meet all of the aforementioned admissions requirements to the Master Degree Program in Educational Administration in addition to holding that degree from a nationally accredited institution.

A minimum of thirty-six graduate credits is required to complete this program. Courses are generally offered at times to accommodate the educational practitioner, i.e., late afternoon, evening, and during the summer months.

A core of courses forms the nucleus of this program and is required of all students.

A practicum in an educational administrative field experience is required of all students. This requirement may be waived by the Graduate Program Director if the applicant submits written documentation that he or she has completed a similar practicum of the same duration or longer as part of the Master's Degree in Educational Administration Program. If the practicum requirement is waived, the applicant will be required to take two elective courses in the program after consultation with his/her advisor.

All students must pass a Comprehensive Examination.

**Adm 601 Organizational Analysis**
Staff
This is the first general specialization course for students in the graduate degree program in Educational Administration. It examines a selected number of the principal concepts that comprise organizational theory and relates them to the structure and operational management of educational institutions.
3 Lect Hrs
3 Credits

**Adm 603 Organizational Change**
Staff
Principles and practices drawn from behavioral science theory are employed as vehicles by which to study the processes of change and renewal in educational organizations.
*Prerequisite: Adm 601.*
3 Lect Hrs
3 Credits

**Adm 613 Personnel: Administration, Supervision and Evaluation**
Staff
In view of the special needs and constraints of the supervision of personnel within school systems, this course will examine departmental and administrative fiats that affect the supervisory process and techniques of supervision that can assist in the creation of improved teaching-learning climates in the classrooms.
3 Lect Hrs
3 Credits

**Adm 621 Curriculum: Theories, Development and Evaluation**
Staff
Elementary, middle, and secondary curriculum development will be examined. Current curricula in various school systems will be analyzed. Participants will focus on present and future socio-cultural forces in devising creative approaches to curriculum patterns and offerings.
3 Lect Hrs
3 Credits

**Adm 624 The Principalship**
Staff
An examination of contemporary administrative theory and practice essential to the effective organization and management of a school.
3 Lect Hrs
3 Credits

**Adm 627 The Law of Public Education**
Staff
Current legal concepts and practices which concern the rights, liabilities, duties and responsibilities of all personnel who are employed by public schools and school systems will be explored with particular attention given to these matters as they pertain to those who are, or aspire to be, administrators or supervisors.
3 Lect Hrs
3 Credits

**Adm 630 Fiscal Management**
Staff
Financing public educational systems has emerged as one of the most pressing problems facing communities across America today. This course explores those fiscal policies and practices that have proved to be both operationally feasible and cost effective.
3 Lect Hrs
3 Credits

**Adm 631 Computer Systems for School Administrators**
Staff
This course provides a general introduction to computers and their applicability to school and school systems operation. Appropriate software will be demonstrated and students will have opportunities to gain practical experience in the operation of microcomputers.
3 Lect Hrs
3 Credits

**Adm 633 Educational Facilities: Design and Management**
Staff
In this course students will be exposed to the complex array of interrelated variables that must be considered by the administrative team in the design and management of school facilities. A selection of diverse school facilities will be reviewed.
3 Lect Hrs
3 Credits

**Adm 646 Leadership Development**
Staff
Concepts drawn from the behavioral sciences are used as a basis for leadership skill development. Participants will engage in a series of leadership-type strategies in simulated situations which will enable them to better understand, predict and modify their own behavior and that of others in organizational settings.
3 Lect Hrs
3 Credits

**Ed 641 Contemporary Issues in Education**
Staff
Against the backdrop of the American socio-cultural context, a selection of salient issues that confront our contemporary institutions are examined with regard to their nature, etiology, prevalence and significance.
3 Lect Hrs
3 Credits

**Ed 643 Behavior and Classroom Management**
Staff
This course explores a diverse range of strategies and techniques that may be used to eliminate or alleviate dysfunctional and/or disruptive behavior in the contemporary mainstreamed classroom.
3 Lect Hrs
3 Credits

**Adm 648 Labor Relations and Collective Bargaining**
Staff
Role playing, socio-drama and case study approaches are used to examine the principles and practices of labor relations and the collective bargaining process in school systems.
3 Lect Hrs
3 Credits

# English

## Educational Administration

**Adm 650 Contemporary Curriculum Issues**
Staff
A selected grouping composed of some of the more significant curriculum issues facing school systems across this nation today is explored through both readings and class discussions. Particular emphasis will be placed upon the implications that these issues are perceived as having on those educators in positions of leadership.
3 Lect Hrs
3 Credits

**Adm 651 Community Relations**
Staff
A course that focuses on how schools and school systems may develop strong, positive relationships with the communities they serve through such practices as team building, developing consensus, establishing coalitions and group problem solving.
3 Lect Hrs
3 Credits

**Adm 652 Group Processes and Interpersonal Relations**
Staff
This course serves as an introduction to group dynamics and provides an understanding of the nature and significance of interpersonal relations within educational settings, especially as they apply to those holding administrative or supervisory positions.
3 Lect Hrs
3 Credits

**Adm 653 Politics and the Educative Process**
Staff
Politics at the municipal, state, and national level and how it influences the form, substance and overall quality of public education in this country is the central focus of this course.
3 Lect Hrs
3 Credits

**Adm 654 Advanced Seminar in Administration**
Staff
Through group discussions, this course explores the principal features of the major issues facing school systems today and the implications of these issues for individuals in school leadership roles.
3 Lect Hrs
3 Credits

**Adm 655 Advanced Seminar in Supervision**
Staff
Both traditional and contemporary practices of supervising teachers and related support staff in educational settings are examined in the light of extremely austere municipal budgets, collective bargaining positions, legal rights and other such factors generally perceived as playing significant roles in the supervisory process.
3 Lect Hrs
3 Credits

**Adm 656 Urban Education Seminar**
Staff
Some of the many problems that are now plaguing our urban schools are studied. Special attention is given to those urban schools that have had a noteworthy degree of success in addressing and resolving these problems.
3 Lect Hrs
3 Credits

**Adm 696 Research Project**
Staff
In close consultation with a staff member a student will undertake a research project treating an actual problem or concern in an educational institution.
*Prerequisites: Ed 610 and permission of the Program Director.*
3 Credits

**Adm 698 Practicum in Educational Administration**
Staff
A laboratory course providing practical experience in some phase of educational administration. Seminars will be devoted to relevant issues and concerns in the area.
3 Credits

**Faculty**

**Pamela Annas**, PhD, *Indiana University,* Working Class Literature, Literary Modernism, Writing for Women

**Ann Berthoff**, MA, *Radcliffe College,* Philosophy and Teaching of Composition, Literary Theory

**Joel Blair**, PhD, *Harvard University,* Satire, 18th Century Literature

**James Broderick**, PhD, *Harvard University,* Victorian and Romantic Literature

**Neal Bruss**, PhD, *University of Michigan,* Linguistics, History of English

**Martha Collins**, PhD, *University of Iowa,* Modern Poetry, Creative Writing

**Robert Crossley**, PhD, *University of Virginia,* Fantasy and Utopia, Science Fiction

**Linda Dittmar**, PhD, *Stanford University,* Experimental Fiction, Film

**Mary Anne Ferguson**, PhD, *Ohio State University,* Images of Women, History of English, Medieval Literature

**Edwin Gittleman**, PhD, *Columbia University,* Colonial and 19th Century American Literature

**Leland Grove**, PhD, *Harvard University,* Modern American Literature

**Francis R Hart**, PhD, *Harvard University,* Biography and Autobiography, British Romanticism, Teaching of Literature

**Alan Helms**, PhD, *Rutgers University,* American Poetry, Modern Poetry

**Susan Horton**, PhD, *Brandeis University,* Literary Theory, Dickens, Writing About Literature

**Seymour Katz**, PhD, *Harvard University,* American Romanticism and Realism, American Civilization

**Charles Knight**, PhD, *University of Pennsylvania,* British Fiction, Periodical Literature

**Emerson Marks**, PhD, *New York University,* Critical Theory, Poetics, Coleridge

**Monica McAlpine**, PhD, *University of Rochester,* Chaucer, Medieval Literature

**Shaun O'Connell**, PhD, *University of Massachusetts,* Modern Fiction, Irish Literature

**Vincent Petronella**, PhD, *University of Massachusetts,* Renaissance Literature

**Lois Rudnick**, PhD, *Brown University,* American Civilization, Immigrant Literature, Twain

**Pancho Savery**, PhD, *Cornell University,* Modern Drama, Black American Literature, Lawrence

**Mary Shaner**, PhD, *University of Illinois,* Medieval Literature, Children's Literature

**George Slover**, PhD, *Indiana University,* Shakespeare, Early Drama

**George Smith**, PhD, *University of Virginia,* Milton, Shakespeare

**Taylor Stoehr**, PhD, *University of California at Berkeley,* Biography, American Literature

# English

**Mary Helen Washington**, PhD, *University of Detroit,* Images of Women in Literature, Black Women Writers

**Frederick Willey**, PhD, *Harvard University,* Teaching of Poetry, The Novel

**Vivian Zamel**, PhD, *Columbia University,* Teaching of English as a Second Language

### The Program

The program leading to the Master of Arts Degree in English is designed to be coherent and flexible. The full-time student (enrolled in three seminars at a time) can complete the program in a single year, but many students are part-time. Six or seven different seminars are scheduled each semester (fewer during the summer). All are small, with twelve to fourteen students, and are scheduled for late afternoon to accommodate students' work schedules. Seminars include major periods, genres, modes, and authors; special topics in ethnic literature; working class literature; courses in literary theory, linguistics, and the history of English; a cluster of seminars in the teaching of writing and literature. Offerings in theory and practice of composition are expanding, and the department includes a distinguished staff in this area. New and experimental courses are included annually, and opportunities also exist for independent study. While the program does not yet include creative writing courses, some MA students work concurrently in the Creative Writing Certificate Program.

### Degree Requirements

Requirements for the MA degree in English include the satisfactory completion of six graduate-level courses (30 credits), the satisfaction of the foreign language requirement, and the satisfactory completion of the Final Exercise.

The six graduate-level courses may be selected from twelve to fourteen graduate seminars offered each academic year. The English MA student may enroll in two advanced undergraduate courses in English or related fields at the University of Massachusetts at Boston and substitute these two courses for one of the six graduate courses required for the degree. A student wishing to transfer credits earned elsewhere may petition for evaluation of such credits; up to 6 transfer credits may be accepted. The degree candidate must earn at least a 3.0 (B) cumulative average in courses taken for graduate credit at the University of Massachusetts at Boston. The degree candidate may propose a semester's unit of independent study, including creative writing, which, if approved, may substitute for one required semester course.

An English MA student must demonstrate a reading knowledge of one foreign language, ancient or modern. The student may demonstrate reading knowledge either by achieving a score of 575 or better on the ETS Graduate School Foreign Language Test or by earning an A or B in an advanced undergraduate foreign literature course (300 or 400 level) at the University of Massachusetts at Boston, or (by petition) in a course at an equivalent level elsewhere. Students who plan careers limited to secondary-school teaching, and who have no intention of later proceeding to the PhD level, may petition for the waiver of the foreign language requirement. A waiver will also be granted to students whose command of an approved foreign language is so obvious as to make further examination or a course requirement superfluous.

The Final Exercise is designed to provide coherence in the English MA student's studies. Recognizing the diversity of backgrounds and aims of these students, the English Graduate Committee has designed the Final Exercise to contain three options. Option A asks the student to submit a long paper (at least 20 pages), with the written approval of a faculty supervisor, including a preface explaining the significance or value of the investigation undertaken, and carefully documented. Option B is a three-hour exam, based upon a list of texts agreed upon by the student and a faculty committee; this option is designed to serve those who wish to develop on their own a particular topic or theme in English and American literature. Option C is a three-part, three-hour written exam based upon a reading list prepared by the English Graduate Committee; this option is designed primarily to serve secondary school teachers who wish to teach their subject with a sense of English and American literature as a whole.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs. The English Graduate Committee will recommend full admission to those applicants who present evidence of their ability and their preparation to do graduate work with distinction. Such evidence must include:

1. A distinguished undergraduate transcript with, normally, an average of at least B or 3.0 in undergraduate English courses. (An undergraduate major in English is preferred, but some of our successful applicants have majored in other fields and have done additional advanced course work—at least six courses—in English and American Literature and in Writing. Occasionally the Committee recommends additional undergraduate course work prior to full admission.)
2. Substantive and detailed recommendations from former teachers familiar with the applicant's most recent academic work.
3. An essay of 800 to 1200 words by the applicant concerning his or her intellectual, professional and personal reasons for desiring to pursue the advanced study of English. The essay should give some specific account of the applicant's past studies and projects, and an explanation of the applicant's major fields or subjects of interest in the field. The essay is of major importance and is evaluated as a demonstration of ability in writing and thinking about literary issues. (Samples of past writing are sometimes requested.)
4. Graduate Record Examination (GRE) scores, (Verbal, Quantitative, and Literature in English) are not required but are recommended, especially in cases where the undergraduate record is unusual or uneven.

Teaching Assistantships for graduate students in English are available. For information before applying, contact the Director of Graduate Studies in English.

### Courses

Graduate Seminars in English are open only to regularly enrolled MA candidates and others by special arrangement with the Director of Graduate Studies in English. All English graduate seminars award 5 credits and meet weekly for 3 hours (in group) and additional tutorial hours by arrangement. Seven seminars drawn from the following list are scheduled each semester.

# English

**Engl 600 Studies in Criticism**
Staff
Study of the nature and function of literature, the terms and methods of analysis and evaluation of literature, and the various approaches possible in the criticism of literature.
5 Credits

**Engl 601 Studies in Poetry**
Staff
Studies in the nature, forms, and modes of poetry in English. The course is intended for readers and writers of poetry. Representative English and American poets will be considered.
5 Credits

**Engl 602 Studies in the Novel**
Staff
Studies in the nature of prose fiction and the major kinds of novels. A reading of representative novels in English and American literature.
5 Credits

**Engl 603 Studies in Drama**
Staff
English and American drama studied in a variety of forms and periods, with attention to European contexts.
5 Credits

**Engl 604 Studies in Satire**
Staff
An exploration of individual works of satire and critical theories about the mode: pre-modern and modern selections from Swift, Pope, Shaw, Waugh, F O'Connor, N West, Eliot and others.
5 Credits

**Engl 610 The Teaching of Composition**
Staff
This course will define the role of composition in the English curriculum in both college and secondary schools; develop a philosophy of language as a foundation for a method of composing; study psychological and linguistic aspects of the composing process.
5 Credits

**Engl 611 The Teaching of Literature**
Staff
A seminar and workshop in theories and strategies of the teaching of literature in school and college. The class observes and analyzes sample presentations involving different literary kinds, and evaluates them in the context of the aims of liberal education. The course serves teachers, prospective teachers, and non-teachers who seek an introduction to literature from pedagogical points of view.
5 Credits

**Engl 613 The Teaching of Poetry**
Staff
Designed for graduate students who want an advanced introductory course, or a refresher course, in the reading and comprehension of poetry, perhaps with the object of teaching it to younger minds. Emphasis on practical criticism, or close reading, but various perspectives and critical approaches are included, along with teaching aids and pedagogical exercises. Concentration on poets of the 19th and 20th centuries.
5 Credits

**Engl 614 The Teaching of Fantasy and Science Fiction**
Staff
The seminar examines major works of unrealistic fiction, and some important critical and theoretical approaches to it, as a way of raising and defining questions about teaching literature. The course is intended for those who wish to explore the reading of such fiction and for those engaged in high school teaching and interested in developing appropriate curricula and pedagogies.
5 Credits

**Engl 620 History of the English Language**
Staff
Description and analysis of modern English from a linguistic perspective, attention to the relationship of linguistic analysis to literature. A survey of Old English, Middle English, early Modern and 18th century English, with its stress on traditional grammar.
5 Credits

**Engl 621 Introduction to Linguistics**
Staff
The course will raise the question of the relationship between language and thought, and will survey the application of linguistics to the study of literature, the analysis and teaching of syntax and grammar, and the fields of psychology, sociology, and biology.
5 Credits

**Engl 622 Stylistics**
Staff
A study of the connection between linguistics and literature. An effort in turning linguistic information into strategies useful for interpreting novels, for describing how novels and poems get put together, for helping us learn how meaning gets made in a literary text, for talking about how a reader's responses to a text get generated out of the particular stylistic/linguistic choices a writer makes.
5 Credits

**Engl 623 The Nature of Narrative**
Staff
This course explores a variety of ways in which modern and contemporary fiction, both English and European, departs from traditional narrative forms. While a comparative study of experimentation will be our main concern, we may address philosophical, political, and psychological issues as they affect narrative form in the twentieth century.
5 Credits

**Engl 630 Chaucer**
Staff
A study of Chaucer's major works in Middle English. Special attention to such considerations as Chaucer's poetic development, his relations to his sources, medieval literary theory, and the social, political, and religious backgrounds.
5 Credits

**Engl 631 Medieval to Renaissance Literature**
Staff
A course in the transition from Medieval to Renaissance literature. A study of the transition in prose from homiletic writings and the romances through Elyot, Ascham, and Lyly; in lyric and narrative verse from Chaucer and the Scottish Chaucerians through Sidney; and in drama from the morality and mystery plays through *Hamlet*.
5 Credits

**Engl 632 Early English Drama**
Staff
A study of the development of form—particularly the forms of comedy and tragedy—in the drama of Shakespeare's predecessors and contemporaries. Readings of selected mystery and morality plays and of works by such playwrights as Marlowe, Kyd, Marston, Tourneur, Webster, Greene, Dekker, Jonson, Beaumont and Fletcher. One play of each kind by Shakespeare.
5 Credits

**Engl 633 Shakespeare**
Staff
Consideration of Shakespeare's dramatic art as an art of coaching an audience (and readers) in how to respond to and understand his make-believes. Multiple plotting, recurring situation, contrasts and parallels in character and character relations (especially the use of theatricalizing characters who stage plays within the play), patterns of figurative language, repetition of visual effects—these and other such "structures" will be considered as means whereby Shakespeare coaxes and coaches the perception of his audience, shapes the participation of mind and feeling, and, especially, prepares audiences for comic or tragic outcomes.
5 Credits

**Engl 634 Elizabethan and Jacobean Literature**
Staff
Studies in the literature of the English Renaissance, from Wyatt to the early Milton, including poets such as Sidney, Spenser, Shakespeare, Donne, Jonson, Herbert, and Marvell, and major prose writers. Consideration of historical and philosophical contexts.
5 Credits

# English

**Engl 635 Metaphysical Poetry**
Staff
A survey of the major English poets called "metaphysical" in their historical context: Donne, Herbert, Vaughan, Crashaw, Marvell.
5 Credits

**Engl 637 Milton**
Staff
A study of the poetry and major prose with particular attention to *Paradise Lost;* Milton's style, his relations to traditional literary forms, his thematic concerns; an examination of Milton criticism.
5 Credits

**Engl 639 Eighteenth Century Studies**
Staff
Study of the Enlightenment in Britain, with emphasis on the major Augustan satirists—Dryden, Swift, and Pope; and on prose writers such as Defoe and Fielding, and critics such as Addison and Johnson.
5 Credits

**Engl 640 The Rise of the Novel**
Staff
A literary and historical study of early experiments in the shaping of the new genre of the novel. Samples, ranging from the late seventeenth century to the early nineteenth, include a variety of experimental forms. Novelists include Defoe, Fielding, Richardson, Sterne, Smollett, Austen, Scott, and the "Gothics."
5 Credits

**Engl 641 Studies in Romanticism**
Staff
A search for the meaning and importance of British romanticism in poetry, fiction, and thought, with reference to the three modes: gothic (Blake and Godwin), romantic (Byron and Scott), pastoral (Wordsworth and Austen).
5 Credits

**Engl 642 Victorian Literature**
Staff
Studies in the careers and works of a few major authors such as Carlyle, Tennyson, Dickens, George Eliot, Ruskin, and Wilde, with brief excursions into the works of others. Major themes include the relations of art and society and the problems of faith and doubt, science and imagination.
5 Credits

**Engl 643 Arnold and Eliot**
Staff
The study of two important men of letters who reflected and criticized the main artistic and intellectual currents of their time. Readings from their poetry, literary criticism, and social commentary as well as selected writings contemporary with each author.
5 Credits

**Engl 644 Lawrence and Woolf**
Staff
A comparison of the major novels of DH Lawrence and Virginia Woolf with particular attention paid to the two writers' conceptions of the nature and function of the novel and to their relation to the literary contexts of the period, 1914-1940.
5 Credits

**Engl 645 Modern Poetry**
Staff
A study of the major figures and currents in modern British and American poetry.
5 Credits

**Engl 646 Literature and Society**
Staff
A study of literature with special reference to its social and historical circumstances and of the theoretical questions raised by such a perspective.
5 Credits

**Engl 647 Irish Literary Revivals**
Staff
A study of Irish literature from 1890 to the present. The writings of the "Irish Renaissance" in part inspired the Rising of 1916, then responded to its effects. Recent Irish writings bear similar relations to the renewed "Troubles" in Northern Ireland. The course will examine the relationships between literature and politics in the times of Yeats and Heaney. Other writers discussed: A Gregory, JM Synge, S O'Casey, J Joyce, F O'Connor, S O'Faolain, P Kavanagh, R Murphy, T Kinsella, J Montague, S Deane, D Mahon, B Friel, B Moore, J McGahern, B Kiely, E O'Brien.
5 Credits

**Engl 648 Modernism in Literature**
Staff
Readings in representative modern authors such as Joyce, Woolf, Stein, Pound, Eliot, Yeats, Williams, and Faulkner. Additional attention to the theory of modernism, with consideration of Cubism, the Bauhaus, relativity, and the First World War.
5 Credits

**Engl 650 Image of America**
Staff
An examination of the way in which America has responded to the concept of the new world and the image of self and nation that has evolved.
5 Credits

**Engl 651 Colonial American Literature**
Staff
Study of literary works written in America before there was a politically independent American nation. Not only "representative" works, but also major texts with a significance which transcends the colonial period.
5 Credits

**Engl 652 American Romanticism**
Staff
A study of critical conceptions of American Romanticism. Readings will include examples of critical writing and fiction by Brown, Irving, Cooper, Poe, Simms, Hawthorne and Melville, and poetry by Bryant, Poe, Longfellow, Lowell, Emerson and Whitman.
5 Credits

**Engl 653 Major American Novelists**
Staff
A study of selected pairs of American novelists, considered comparatively. Authors include Hawthorne, Melville, James, and others.
5 Credits

**Engl 654 Faulkner**
Staff
A reading of all the major fiction centered in Yoknapatawpha County, with an intensive study of selected texts.
5 Credits

**Engl 655 Modern American Poetry**
Staff
Studies in the poetry and selected prose of Robert Frost, Pound, Eliot, Williams, and Stevens, with complementary readings in other Modern American poets.
5 Credits

**Engl 656 Contemporary American Fiction**
Staff
A study of the scope (times and types) and strains (types and tensions) in the post WWII, post-Modern American novel, with special attention to the persistence of realism, the insistent presence of surrealism, and the occasional combination of the two.
5 Credits

**Engl 657 The Black Presence**
Staff
Study of selected literary texts of the last two hundred years by major and minor authors who wrote with a special consciousness of the significance of black people in American society.
5 Credits

# Environmental Science

## English

**Eng 658 Regional Literature**
Staff
Regional consciousness in representative works of modern American writers of the South and New England; the roles that the sense of history, the sense of place, and the response to the natural world play in the work of Southern and New England writers.
5 Credits

**Engl 659 Changing Images of Women in Literature**
Staff
The seminar focuses on fiction and poetry of the past ten years (mostly American) in order to determine whether old, mostly negative images of women are being changed by the new feminist criticism and awareness. We give close attention to the images and the language used by such writers as Tillie Olsen, Marge Piercy, Margaret Atwood, Denise Levertov, Adrienne Rich, Lisa Alther, Olga Broumas. We also discuss critically recent feminist criticism (and criticism alleged to be feminist).
5 Credits

**Engl 691 New Approaches to Medieval Literature**
Staff
A study of revolutionary modern critical thought on medieval literature, such as the *Beowulf*, Chaucer's *Troilus*, and medieval drama. The course examines medieval literary and critical theory, the "historical" approach of 19th century critics, and the seminal essays and books of 20th century scholars.
5 Credits

**Engl 692 Problems in Modern Criticism**
Staff
An introduction to some important modern critics: TS Eliot, IA Richards, Northrop Frye, Harold Bloom, Freud, DH Lawrence, Kenneth Burke, George Lukacs, Walter Benjamin, Sartre, Raymond Williams, and perhaps Blanchard, Blanchot or Derrida. The emphasis will be on some problems these critics face: defining their function, choosing a method, adopting an epistemology, setting formal aims. We will consider how the three "schools" these critics represent (the Aesthetic, the Synthetic, and the Radical) offer varying solutions to these problems.
5 Credits

**Eng 696 Independent Study**
Staff
A comprehensive study of a particular area of literature, a particular author, etc. Consultation with the Director of Graduate Studies is mandatory. Applications or outlines of study must be submitted at the end of the semester previous to the study. Approval by graduate committee is required.
5 Credits

**Engl 697 Special Topics**
Staff
Experimental new graduate seminars on special subjects may be offered once from time to time under this heading. Topics are announced annually. Recent offerings (now under development as regular new courses) include: Writing About Literature, Studies in Modern American Literature, 20th Century Black Writers, Life Writing, Practical Writing.
5 Credits

**Faculty**

**Joseph S Alper**, PhD, *Yale University*, Theoretical Chemistry (Chemistry Department)

**Jean-Pierre Anselme**, PhD, *Polytechnic Institute of Brooklyn*, Synthesis and Mechanisms of Organic Nitrogen Compounds (Chemistry Department)

**Kamaljit Bawa**, PhD, *Punjab University*, Plant Ecology (Biology Department)

**Ernest I Becker**, PhD, *Case Western Reserve University*, Organic Metallic Compounds (Chemistry Department)

**Ruth R Bennett**, PhD, *Tufts University*, Neurophysiology (Biology Department)

**Robert L Carter**, PhD, *University of Kansas*, Inorganic Solids (Chemistry Department)

**Joseph J Cooney**, PhD, *Syracuse University*, Microbial Physiology and Ecology (Environmental Science Program)

**John P Ebersole**, PhD, *University of California at Los Angeles*, Marine Ecology (Biology Department)

**Robert P Eganhouse**, PhD, *University of California at Los Angeles*, Stable Isotopic and Molecular Methods for Tracing Anthropogenic Wastes (Environmental Science Program)

**Eugene D Gallagher**, PhD, *University of Washington*, Benthic Ecology, Polychaete Biology, Succession, Serology, Predator-Prey Relationships (Environmental Science Program)

**Robert I Gelb**, PhD, *University of Wisconsin*, Solution Equilibrium (Chemistry Department)

**Edward S Ginsberg**, PhD, *Stanford University*, Theoretical Elementary Particulate Physics (Physics Department)

**William G Hagar**, PhD, *Temple University*, Photosynthesis (Biology Department)

**Jeremy J Hatch**, PhD, *Duke University*, Animal Behavior and Ecology (Biology Department)

**Lawrence Kaplan**, PhD, *University of Chicago*, Archaeological Botany (Biology Department)

**Leslie S Kaufman**, PhD, *Johns Hopkins University*, Ecology and Ichthyology (Biology Department)

**Christine J Armett-Kibel**, PhD, *University College, University of London*, Neurophysiology (Biology Department)

**Daniel A Laufer**, PhD, *Brandeis University*, Biomolecules (Chemistry Department)

**Barbara E Luedtke**, PhD, *University of Michigan*, New World Prehistory (Anthropology Department)

**Harold P Mahon**, PhD, *University of Washington*, Energy Concerns (Physics Department)

**Thomas N Margulis**, PhD, *University of California at Berkeley*, X-Ray Crystallography (Chemistry Department)

**Charles M Nelson**, PhD, *University of California at Berkeley*, Old World Prehistory (Anthropology Department)

**Elizabeth J O'Neil**, PhD, *Harvard University*, Applied Mathematics (Mathematics Department)

# Environmental Science

**Charles J Puccia**, PhD, *Massachusetts Institute of Technology,* Mathematical Ecology (Biology Department)

**Michael A Rex**, PhD, *Harvard University,* Marine Ecology (Biology Department)

**Geza Schay**, PhD, *Princeton University,* Applied Mathematics (Mathematics Department)

**Lowell M Schwartz**, PhD, *Massachusetts Institute of Technology,* Oxocarbon Physical Properties (Chemistry Department)

**Michael P Shiaris**, PhD, *University of Tennessee,* Marine Microbiology (Biology Department)

**Richard Truesdell**, PhD, *Boston College,* Statistics and Computer Applications, (Mathematics Department)

**Gordon Wallace**, PhD, *University of Rhode Island,* Aquatic and Atmospheric Chemistry (Environmental Science Program)

**Nevin Weaver**, PhD, *Texas A & M,* Biology of Insects (Biology Department)

**Richard H White**, PhD, *Washington University,* Vision Physiology (Biology Department)

**Hans van Willigen**, PhD, *University of Amsterdam,* Spin Resonance (Chemistry Department)

**H Garrison Wilkes**, PhD, *Harvard University,* Plant Genetics (Biology Department)

**Suzanne M Spencer-Wood**, PhD, *University of Massachusetts,* Historical Archaeology (Anthropology Department)

**Leverett J Zompa**, PhD, *Boston College,* Transition Metal Complexes (Chemistry Department)

### The Program and Facilities

The multidisciplinary doctoral program in environmental science at the University of Massachusetts at Boston trains individuals for leadership roles as environmental scientists in the public and private sectors. Graduates prepare for careers in industry, government agencies, health related fields, and university teaching and research. The program offers advanced courses, research and other training in a broad spectrum of environmental problems in both the laboratory and the field.

The campus is located on Boston Harbor within easy commuting distance of the residential areas of metropolitan Boston. Near the campus are island systems, protected bays, exposed open ocean areas and Georges Bank, a highly productive offshore fishing region. The University's field stations in Gloucester and Waltham and on Nantucket Island provide additional marine ecosystems and access to aquatic, wetlands and terrestrial ecosystems.

Research facilities include modern, well-equipped laboratories, support facilities, the science library, computing facilities, and specialized equipment reflecting the research interests of the faculty.

### Degree Requirements

Formal course work includes a required core curriculum and a specialty area. Core courses include an introduction to environmental sciences, two courses in statistics and computer programming, scientific communication, two courses in introduction to research techniques, environmental policy and administration, and resource management. In addition, thirty to thirty-six hours of courses are usually necessary to provide thorough grounding in the student's area of specialization. At present these areas include Applied Ecology, Chemistry of Aquatic Systems, Environmental Physiology, Environmental Toxicology, and Energy.

The student is required to pass a comprehensive examination designed to test intellectual competence and maturity in the broad area of Environmental Science and in the area of specialization. Upon successful completion of this examination the student becomes a candidate for the PhD degree.

A scholarly dissertation based on original research is required of all candidates for the PhD degree. Thesis research may be done in the laboratory or in the field, or may be carried out in part during residence with an appropriate private business or governmental agency. The program is unique in providing this academic/internship option.

### Admission Requirements

A BA or BS degree is required for admission, normally with sound undergraduate training in the natural and physical sciences, calculus and statistics. Candidates who have completed a Master's Degree will be considered. Students with majors in the natural and physical sciences, mathematics, engineering and economics would be appropriate. Because of the interdisciplinary nature of the program, and because many otherwise excellent candidates who did not major in science may be lost to the program, applicants with a wide variety of academic training will also be considered with the understanding that deficiencies will be remedied prior to admission.

Students with broad general deficiencies will be required to correct these before admission to the program is granted. These undergraduate deficiencies must be satisfied without credit and before full admission status is granted.

The Environmental Science Graduate Committee recommends admissions on the basis of the completed application, official transcripts, Graduate Record Examination scores (aptitude tests only), and letters of recommendation.

### Course Descriptions

**EnvSci 610 Introduction to Environmental Sciences**
Staff
An interdisciplinary course which examines natural systems and the impact of man's activities at all levels of the biosphere.
3 Lect Hrs
3 Credits

**EnvSci 611 Applied Statistics**
Staff
An applied approach to basic statistics. The procedures for a variety of descriptive statistics, hypothetical probability distributions, and statistical tests are reviewed. Choosing the appropriate statistic for a given situation, and the general rationale for all statistical tests, are emphasized. Students will become familiar with the use of statistical computer program packages for the analysis of data.
*Prerequisite: Calculus; an advanced course in the Natural or Social Sciences.*
3 Lect Hrs plus independent work at computer console
3 Credits

# History

## Archival Methods

## Historical Archaeology

# Environmental Science

**EnvSci 614 Introduction to Research Techniques I**
Staff
An overview of the research techniques and approaches to environmental problems will be introduced. Students will spend time in each of several laboratories, with visits to field stations and selected agencies/businesses. In each setting, the student will become acquainted with specific techniques and will be expected to develop an understanding of the area under investigation.
6 Lab and Field Hrs
3 Credits

**EnvSci 615 Introduction to Research Techniques II**
Staff
A companion course to EnvSci 614, intended to familiarize the student with research techniques in environmental science. EnvSci 615 may be taken independently of EnvSci 614.
*Prerequisite: Organic Chemistry.*
6 Lab and Field Hrs
3 Credits

**EnvSci 616 Environmental Policy and Administration**
Staff
Study of how solutions to environmental problems are implemented. Techniques of policy making and administration in both public and private organizations are studied. Government and industrial administrators are brought to campus to provide insight into real world problems and solutions.
3 Lect Hrs
3 Credits

**EnvSci 640 Chemistry of Natural Waters**
Mr Wallace
A basic description of the chemistry of natural and especially marine waters designed to lay the groundwork for more advanced course work. Emphasis will be on the chemical composition of natural waters and the identification of the important chemical, physical and biological processes controlling their composition. A case study, emphasizing the multi-disciplinary nature of these processes will be given at the end of the course.
3 Lect Hrs
3 Credits

**EnvSci 697 Special Topics in Environmental Sciences**
Staff
Provides an opportunity for presentation of a particularly timely lecture/laboratory/field material which does not fall under the purview of an extant course.
*Prerequisite: Permission of instructor.*
Hrs by arrangement
1-3 Credits

**EnvSci 730 Scientific Writing**
Mr Cooney
This course is intended to develop skills in written presentations of environmental scientific information. Forms of presentation covered include poster presentations, preparation of manuscripts, research proposals, and environmental impact statements. Aimed at second-year graduate students.
*Prerequisite: Completion of 12 hours of graduate coursework in the Environmental Science Program, or permission of the instructor.*
Hrs by arrangement
2 Credits

**EnvSci 791 Seminar in Environmental Science**
Staff
Presentations and discussions of current topics in environmental science by students and visiting lecturers. Registration required three times prior to completion of the degree.
*Prerequisite: Admission to the Graduate Program in Environmental Science.*
1 Disc Hr
1 Credit

**EnvSci 796 Independent Studies in Environmental Science**
Staff
Laboratory and/or library studies of an independent nature which are taken under the overall direction of a faculty member.
*Prerequisite: Permission of instructor and Program Director.*
Hrs by arrangement
1-3 Credits

**EnvSci 899 Dissertation Research**
Staff
Research, conducted under faculty supervision, which leads to the presentation of a doctoral dissertation.
Hrs by arrangement
1-6 Credits

**Faculty**

**Feroz Ahmad**, PhD, *University of London*, Middle Eastern History

**Lester J Bartson**, PhD, *Harvard University*, Ancient History

**Paul Bookbinder**, PhD, *Brandeis University*, German History

**Francis L Broderick**, PhD, *Harvard University*, American Social and Intellectual History since 1865

**Thomas N Brown**, PhD, *Harvard University*, 20th Century American and Immigration History

**Michael Chesson**, PhD, *Harvard University*, American Civil War & Reconstruction

**Jonathan Chu**, PhD, *University of Washington*, American Colonial History

**Spencer DiScala**, PhD, *Columbia University*, Modern Italian History

**Paul Faler**, PhD, *University of Wisconsin*, American Labor and Social History

**Clive Foss**, PhD, *Harvard University*, Ancient History

**Paul A Gagnon**, PhD, *Harvard University*, Contemporary French History

**Linda Gordon**, PhD, *Yale University*, Women's History

**Walter Grossman**, PhD, *Harvard University*, 18th Century European History

**Anthony H Hull**, PhD, *University of Alabama*, Spanish History

**David Hunt**, PhD, *Harvard University*, French Revolution

**Esther Kingston-Mann**, PhD, *Johns Hopkins University*, Russian History

**Barbara Luedtke**, PhD, *University of Michigan*, New World Prehistoric and Contact Period Archaeology, Archaeological Method and Theory, Public Archaeology (Anthropology Department)

**Timothy McCarthy**, PhD, *Brandeis University*, European Intellectual History

**Thomas A McMullin**, PhD, *University of Wisconsin*, American Social History

**Frances Malino**, PhD, *Brandeis University*, Middle Eastern and Jewish History

**Charles M Nelson**, PhD, *University of California/Berkeley*, Old World Pre- and Proto-Historic Archaeology, Archaeological Method and Theory, Reconstruction of Economic Systems (Anthropology Department)

**Mark R Peattie**, PhD, *Princeton University*, East Asian History

**William A Percy**, PhD, *Princeton University*, Medieval History

**Richard H Powers**, PhD, *Ohio State University*, Modern European History

**Roger W Prouty**, PhD, *Columbia University*, Modern Britain, British Empire, and History of Boston

**Martin H Quitt**, PhD, *Washington University*, Early American History

**Eric H Robinson**, MA, *Cambridge University*, Economic History and History of Technology

**Susan C Schneider**, PhD, *University of Texas*, Latin American History

# History

**Lester A Segal**, PhD, *Columbia University*, Early Modern French and Jewish History

**Marshall S Shatz**, PhD, *Columbia University*, Russian History

**Malcolm R Smuts**, PhD, *Princeton University*, Tudor-Stuart England

**Suzanne Spencer-Wood**, PhD, *University of Massachusetts/ Amherst*, Historical Archaeology, Urban Archaeology, Archaeological Method and Theory, Public Archaeology (Anthropology Department)

**James C Turner**, PhD, *Harvard University*, American Intellectual History

**Renee Watkins**, PhD, *Harvard University*, Renaissance and Reformation

**R Nicholas Olsberg**, PhD, *University of South Carolina*, Coordinator of the Archives Program

### The Program

The History Department offers a Master's degree in History with special tracks in History/Archival Methods and (with the Anthropology Department) History/Historical Archaeology.

History

The Master of Arts program in History offers a rigorous, individually planned set of courses and supervised research and writing. Both demanding and flexible, it suits those students who intend to pursue a PhD as well as those who seek to test their capacity for graduate work before committing themselves. Not all students enter directly from college; many return at the beginning graduate level after long absences from school. The student body includes teachers at the secondary level who desire to improve their knowledge of the field. Students who simply wish to pursue advanced studies for their own intellectual enjoyment and development also benefit from the program's design. Graduate enrollment is small, affording the graduate student close faculty attention and support.

History/Archival Methods

The History/Archival Methods track of the History MA program combines graduate study in history with training in archives and manuscripts administration. The track prepares students for careers as archivists in the public or private sector. It is of special appeal to librarians and museum staff members who wish to develop archival skills.

History/Historical Archaeology

The History/Historical Archaeology track of the History MA program offers the interdisciplinary education which historical archaeologists need for the analysis of both documentary and archaeological data. This track is structured primarily to prepare students for careers in American public archaeology, although it also provides strong preparation for academic positions or subsequent training at the doctoral level. Flexibility in program design permits the accommodation of part time as well as full time students who wish to develop careers as professional historical archaeologists. Because most graduates of this track are expected to pursue careers in American public archaeology, the program is topically focused on the European settlement of North America, although individual programs can be designed with a more European focus. The track is composed of a two-year sequence of courses, starting with the current state of research, theory and method in American history, and historical archaeology, followed by archaeological field work and archival data gathering, and culminating in an MA thesis which combines the archaeological and archival data in an original problem-oriented research project. The archaeological fieldwork may involve either a historical archaeology field school or an internship with a local contract archaeology agency.

### Degree Requirements

Requirements for the History program and the History/Archival Methods track are 30 credit hours. All students are required to take the graduate colloquium on historical methodology (4 credits) and five additional approved courses (20 credits). For students in the History/Archival Methods track, those additional courses include two required archival methods courses and a research seminar in American history.

Students in the History program and the Historical Archaeology track complete a Master of Arts thesis (6 credits). For students in the History/Archival Methods track there is an Archival Practicum (6 credits) which is in lieu of the Master of Arts thesis.

Requirements for the Historical Archaeology track total 38-44 credits, of which 6-10 are for a field course, and 6-10 are for the MA thesis research project course. Other required courses include the History Graduate Colloquium, the Research Seminar in American History, New England Historical Archaeology, and the Graduate Lab Seminar in Archaeology. The remaining course choices must be approved by the student's advisor and the Graduate Historical Archaeology Committee.

Applicants to the Historical Archaeology track should have a BA in anthropology or history, or several courses in at least one of these fields. Students lacking background in either of these fields will be required to take undergraduate preparatory courses. Those minimally required in history include an introductory level course in American history, and upper level courses in European history, American history, and historiography. Background courses minimally required in anthropology include introductory archaeology, and upper level courses in anthropological theory, archaeological method and theory, and historical archaeology. While a more comprehensive undergraduate background in both fields is desirable, these background course requirements with additional assignments for MA students will minimally prepare students for graduate level study in each field.

# History

Students enrolled in the History program and the Archival Methods track must demonstrate a reading proficiency in one foreign language—French, German, Spanish, or another judged relevant to the student's major area of interest. This requirement may be met by performing satisfactorily on the ETS Graduate School Foreign Language Test, or by passing a test administered by the program.

Students may choose to pursue the Master of Arts degree in History either full or part time. In normal circumstances it is expected that all requirements for the degree will be completed by full-time students within three years of each student's first enrollment and within four years by part-time students in history.

Before candidates are approved for the Master of Arts degree, they must be examined orally on the thesis or practicum and on the fields of history (and historical archaeology, where students are pursuing this track) in which it falls. The examining committee consists of the student's thesis/practicum supervisor and two additional readers (one of whom may be from outside the History Graduate Program) to be chosen by consultation among the supervisor, the student, and the Deputy Provost for Graduate Studies and Research. To pass these examinations, students must receive at least two affirmative votes. If they fail, they may repeat the examination two times at intervals of not less than three months. If the examination has not been passed within two calendar years from the date upon which the examination was first taken, the student will be removed from degree candidacy, and will be readmitted only through a special petition to the Graduate Committee.

No grade below "B – " awarded to a graduate student will count toward fulfilling the requirement for a Master of Arts Degree in History.

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

Applicants must submit evidence that they are able to perform graduate work at a high level of competence. Graduate Record Examination scores should be submitted if available.

Applicants interested in History and History/Archival Methods will normally be expected to have maintained a 3.0 (B) cumulative average in history courses as undergraduates. Applications from persons who did not major in history as undergraduates will be considered, but such persons, if admitted, may be asked to pursue a program of reading or course work designed to remedy any deficiencies in their preparation for graduate study.

Applicants for the Historical Archaeology track will normally be expected to have maintained a 3.0 (B) cumulative average, majoring in either anthropology, history, American civilization, or another related field. Any deficiencies in history or anthropology must be remedied by taking prerequisite undergraduate courses before taking the graduate courses in that field. These required background courses should be taken in the first year of study along with graduate courses for which students have completed the preparation.

With the application an 800-word statement is required concerning the applicant's interest area within the Graduate History program or the tracks in Archival Methods or Historical Archaeology. Each applicant should also specify on the application the program or track to which he or she is applying.

**Courses**

600-level courses up to 689 are open to graduate and undergraduate students. Courses above the 689 level are open to graduate students only.

**Hist 610 American Historical Tradition**
Staff
This course will explore the major schools of American historical interpretation and study the historical controversies that surround major developments in the history of the United States. Among the many historians to be discussed are Bancroft, Turner, Beard, Hofstadter, and Williams.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 615 European Historical Tradition**
Mr Powers
The history of European historical writing from Voltaire to Toynbee, with emphasis on the historians of the nineteenth century.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 620 Biography**
Mr Shatz
The art and craft of biographical writing. The course will examine a variety of approaches to biography, e.g., psychobiography, literary biography, political biography. Representative examples of each of these approaches will be analyzed. Particular attention will be paid to the retrieval and critical use of biographical materials, such as autobiography, archives, oral sources.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 640 England, America and Revolution**
Mr Smuts, Mr Chu
This course will examine the nature of politics and political practice in both the colonies and Great Britain during the eighteenth century. The major focus of the course will be the ways in which distinctive English and American political cultures emerged out of a common tradition.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 650 Tocqueville and His Age**
Mr McCarthy
The purpose of this course is to explore the uniqueness and complexity of Tocqueville's political and social thought. It will examine Tocqueville's studies of America, England, and France, both with respect to their intrinsic historical and theoretical value and their relation to modern scholarship.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 656 Topics in the History of Charlestown**
Mr Brown
A seminar on selected topics in the development of Charlestown, a Boston neighborhood, from the late eighteenth century to the present.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

# History

**Hist 670 Introduction to Archival Methods**
Mr Olsberg and participating archivists in the Boston area
An introduction to archives with instruction in the techniques of collection, survey, description, appraisal and arrangement of manuscripts and records. Eight classes will be taught and students will be asked to participate in four field trips to local repositories. The course is seen both as basic instruction in archival principles and practice for potential users. Theoretical readings will be limited, and the emphasis will be on practical exercises in the arrangement, description, survey and appraisal of records.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 671 Fieldwork and Seminar in Archival Methods**
Mr Olsberg
Each student will design and carry out an advanced field project in archives or manuscripts. Seminars will be used to critique project proposals and workplans, review results, and examine general problems in archival methods that are encountered through project work.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 681 Topics In European History**
Staff
Examinations of important themes in European political and social, cultural and intellectual history. Topics will vary.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 682 Topics in American History**
Staff
Examinations of important themes in American political and social, cultural and intellectual history. Topics will vary.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
4 Credits

**Hist 691 Research Seminar in European History**
Staff
An advanced course in historical research. Readings and research will draw upon historical materials in European history, and will concern topics to be announced in advance.
*Prerequisite: Graduate standing.*
3 Lect Hrs
4 Credits

**Hist 692 Research Seminar in American History**
Staff
An advanced course in historical research. Readings and research will draw upon diverse historical materials, primary sources, records, and documents in American history, and will focus upon topics to be announced in advance. Required of students in the Archival Methods Program.
*Prerequisite: Graduate standing.*
3 Lect Hrs
4 Credits

**Hist 695 Independent Study**
Staff
Advanced course of independent readings under the guidance, and subject to the examination, of the instructor. Areas and topics according to student need.
*Prerequisite: Graduate standing.*
Hrs by arrangement
1-4 Credits

**Hist 696 Independent Study II**
Staff
Advanced course of independent readings under the guidance, and subject to the examination, of the instructor. Areas and topics according to student need.
*Prerequisite: Graduate standing.*
Hrs by arrangement
1-4 Credits

**Hist 697 Special Topics**
Staff
Examination of specific issues and problems in a broad historical context. Variable topics.
*Prerequisite: Graduate standing.*
Hrs by arrangement
4 Credits

**Hist 698 Field Practicum in Archival Methods**
Mr Olsberg
All archives and manuscripts specialists will intern up to 8 hours per week in one of the participating institutions; arrangements can be made for students expressing interest in a field (such as church archives or local records) not represented by the participants to work in an appropriate repository. Intern projects will be designed to be completed within the semester and all projects will result in written surveys, finding aids, or preliminary inventories comparable in extent or effort to a master's thesis. This internship and resulting written work will be the equivalent of a 6-credit thesis research and preparation.
*Prerequisite: Graduate standing.*
Hrs by arrangement
6 Credits

**Hist 699 Master of Arts Thesis**
Staff
Under the supervision of the appointed advisor. All topics must be previously approved by the program's graduate committee. The thesis will be judged for its suitability as partial fulfillment of the requirements for a Master of Arts degree by both the appointed advisor and two additional readers selected in consultation with the Associate Provost for Graduate Studies.
*Prerequisite: Graduate standing.*
Hrs by arrangement
6 Credits

**Hist 700 Graduate Colloquium**
Staff
An advanced course in historical methodology. Topics to be covered will include historiography, the analysis of argument and evidence, recent developments in historical methods. Required of all graduate students.
*Prerequisite: Graduate standing.*
3 Lect Hrs
4 Credits

**Anth 615 Public Archaeology**
Ms Spencer-Wood
An examination of cultural resource management in New England and the United States, including the significance of state and federal environmental and historic preservation legislation, and the implementation of these laws from drafting proposals and the granting of contracts to the collection of data and its analysis for recommendations to mitigate the impact of construction on archaeological sites. Students will learn the processes of national register nomination, problem-oriented proposal and report writing, and calculation of budget estimates for proposed work.
*Prerequisite: Anth 241, or expertise in contract archaeology.*
3 Lect Hrs
4 Credits

**Anth 625 New England Historical Archaeology**
Ms Spencer-Wood
In-depth survey of the current research in New England historical archaeology. The course will include presentations of current archaeological research in the Northeast and discussions/evaluations of current projects with regard to their theoretical approach, methods, and results. Additionally, a laboratory section will afford practical training in the conjunctive analysis of archaeological and documentary data in problem oriented research.
*Prerequisite: Anth 240.*
3 Lect Hrs, 3 Lab Hrs
5 Credits

# Human Services

## History

**Anth 665 Graduate Lab Seminar In Archaeology**
Ms Luedtke, Mr Nelson, Ms Spencer-Wood
In-depth practical training in archaeological method and theory with emphasis on applications in historical archaeology. The course will include lectures and discussions on theory and method as well as a practice lab in the use of techniques such as matrix ordering, methods of classification, and dating.
*Prerequisites: Anth 240 and Anth 241.*
3 Lect Hrs, 3 Lab Hrs
5 Credits

**Anth 685 Summer Field School in Historical Archaeology**
Ms Spencer-Wood
Summer field survey or excavation in historical archaeology for 6-8 weeks in the Boston or New England area. Credit will be given for any other appropriate field school or internship at another institution.
*Prerequisites: Anth 625 and Anth 665.*
3 Lect Hrs
6-10 Credits

**Anth 696 Individual Research in Archaeology**
Ms Spencer-Wood
Students may take this course in addition to those required in the program in order to pursue research relevant to the program of study.
*Prerequisite: Permission of instructor.*
1-4 Credits

**Anth 697 Special Topics in Archaeology**
Staff
The content of this course, while always relevant to the program, will vary depending on the specialty of the visiting or permanent faculty member who may teach this course on a temporary basis.
*Prerequisite: Permission of instructor.*
4 Credits

**Anth 699 Thesis Research Projects in Historical Archaeology**
Ms Spencer-Wood
In this course an MA thesis will be developed from a problem-oriented analysis of documentary and archaeological data. The MA thesis will include a description of the problem in the context of the disciplines of anthropology and history, its application to the data, a description of the analyses undertaken, and their results with reference to the problem. In the conclusion the results of the research project should be discussed in relation to other current research in the field. The MA thesis must be read and approved by three readers, one from History, one from Anthropology, and a third faculty member from a department to be determined.
*Prerequisites: Anth 625, Anth 665, Anth 685 and permission of instructor.*
6-10 Credits

**Faculty**

**Scott A Bass**, PhD, *University of Michigan*, Community Psychology

**Joan Levin Ecklein**, PhD, *Harvard University*, Sociology

**Murray W Frank**, PhD, *Brandeis University*, Social Welfare

**Phyllis K Freeman**, JD, *Northeastern University*, Human Services Law

**Jean Thomas Griffin**, EdD, *Temple University*, Educational Psychology

**Lucy Horowitz**, PhD, *Massachusetts Institute of Technology*, Psychology and Education

**Paul S Rosenkrantz**, EdD, *Clark University*, Psychology

**Gary N Siperstein**, PhD, *Yeshiva University*, Special Education

**Victoria Steinitz**, PhD, *Harvard University*, Social Psychology

**Carole Upshur**, EdD, *Harvard University*, Clinical Psychology and Public Practice

**Miren Uriarte**, MSW, *Boston College School of Social Work*, Human Services

**Elaine Werby**, MSW, *Boston College School of Social Work*, Human Services

**Ann Withorn**, PhD, *Brandeis University*, Social Welfare

**The Program**

The Master of Science program in Human Services is designed primarily for individuals currently working in the field of human services who wish to expand their professional competence in the delivery, administration and planning of human services. The objectives of the program are to provide students with: an understanding of the history of social welfare in the United States; an understanding of the range of theories of human development and intervention; analytical and problem solving skills; research and evaluation skills; and specific techniques in the delivery and operation of human service programs.

The Master of Science program in Human Services is competency-based. Emphasis is placed on the outcome of the learning process which is described in specific terms. Each competency statement includes the criteria and standards which a student is expected to meet in order to demonstrate competence. Students demonstrate competence through participation and presentation of work meeting these exacting criteria and standards based on instructional offerings, field work and a major independent project.

The program is designed to accommodate students who are employed, but who wish to pursue their graduate degree through intensive study for a period of two years, including summers. Most courses will be offered in the evenings and on weekends; some regular daytime activities will be required.

# Human Services

### Degree Requirements

The MS in Human Services requires the completion of 18 competencies (the equivalent of 54 credit hours). Students must meet the core, concentrations, and two elective requirements, and must complete a major independent project in which two competencies are demonstrated. Five competencies must be demonstrated through field work. (see below)

Core requirements: Six interdisciplinary competencies: HS 601, 602, 603, 604, 605, 606.

Concentration requirements: Students must select a major concentration (five competencies) and a minor concentration (three competencies) from the following areas:

Direct Service: HS 610, 611, 612-613, 614.

Administration: HS 620, 621, 622, 623, 624.

Program Planning: HS 630, 631, 632, 633, 634.

Electives: Students must choose two competencies from the following: HS 640, 641, 642, 643, 644, 645, 646, 647.

Independent Project: Required of all students: HS 650 and 651 Policy Analysis/Program Change Project.

### Prior Learning

Students who enter the program with prior graduate course work and/or substantial professional experience have the opportunity to present evidence to satisfy part of the degree requirements up to a maximum of 3 competencies, applied only to the Core or elective competencies. A minimum of two may be based on graduate courses.

### Field Work

Field work in the MS in Human Services is defined by a minimum number of hours as well as by the student's meeting the particular criteria and standards of the competencies. Field work requirements are: a minimum of 300 hours and 2 competencies completed in a field placement outside of the student's job: a minimum of three additional competencies completed either within the student's job or within his or her own agency. Certain competencies (e.g. Advanced Intervention) can be demonstrated *only* in the field.

### Plan of Work

With the assistance of a faculty mentor, each student will develop a plan for learning and demonstrating competencies to meet all requirements. The Supervisor of Field Education will assist students and agencies in developing a plan for meeting field work requirements. Students are expected to complete three competencies a semester and two during the summer.

### Admission Requirements

The MS in Human Services Admission Committee seeks to admit students with a diversity of backgrounds and educational and professional experiences. Applicants will be selected on the basis of both academic preparation to pursue graduate studies and appropriate professional experience in human services. Evidence of those qualifications includes:

1. A Bachelor's degree from an accredited institution of higher education and a grade point average of 2.75 on a 4 point scale or equivalent evaluation of academic performance.
2. A satisfactory score on the Miller Analogies Test.
3. A resume of professional activities that demonstrates substantial practical experience (paid or volunteer) in public or community service.
4. Three letters of recommendation; at least one of which is from a supervisor working with the applicant in a professional context.
5. A personal statement of 500 to 800 words indicating the applicant's reasons for pursuing an advanced degree; expectations for skill development and career advancement; an assessment of the applicant's plans to balance the demands of graduate study with job and family commitments; and a statement of what support (i.e. release time) may be available from the applicant's work situation to assist him or her in pursuing graduate education.

### Competency Descriptions

**HS 601 Human Services Policy and Organization**
Students will be expected to understand the historical background of social policies as well as the political and social issues involved in the formation and implementation of policy.

**HS 602 Human Services Law**
Students will be expected to understand the basic rights and obligations of the clients they serve and the agencies with which they work and to apply this understanding appropriately in the course of their work as case workers, supervisors or administrators.

**HS 603 Race, Culture, and Ethics in Human Services**
Students will be expected to understand the racial, cultural and ethical issues in the delivery of human services, including the impact of these issues on organizational structure, program design and the relationship between provider and client.

**HS 604 Human Development**
This competency will require the student to demonstrate the ability to analyze, evaluate, and apply developmental theories of the life span. The student is expected to develop and demonstrate a critical perspective concerning the impact of biological factors, psychological, and sociological factors on the developmental process, and the organization of behavior over the life span.

**HS 605 Case Supervision and Communication**
Students will be expected to understand the principles and theories of supervision and social exchange theory, their relationship to the organizational structure of an agency and its goals and tasks, management and leadership styles and methodologies for congruent communication and conflict resolution.

# Human Services

**HS 606 Research Methods and Statistics in Human Services**
Students will be expected to understand the basic principles of research design, statistical analysis, and the key dimensions of validity and reliability in research. Students will demonstrate the ability to critically review research in a specialized area and relate research results to implications for the structure of service delivery and administration.

**HS 610 Theories of Behavior and Change**
Students will be expected to understand the evolution of different models of behavioral change from theories of human development and to understand the similarity and differences between the assumptions in different models concerning the characteristics of the individual or social unit, the environment, and their interaction. Finally, students will evaluate the translation of models of behavioral change into practice in human service settings.

**HS 611 Client Assessment and Crisis intervention**
Students will become familiar with and skilled in the types and sources of information required for assessment: observation, interviewing, collateral, family and agency data. Students will then be introduced to systematic methods of formulating assessments as the basis for intervention, drawing upon knowledge of human behavior and social systems. Emphasis will be placed on differential assessment, identification of episodic crisis situations, long-term problem situations, natural and institutional support systems.

**HS 612**
**HS 613 Advanced intervention (double weight competency)**
Students will examine the major theoretical and practical components which compromise interventions in human service settings, in order to develop a coherent and realistic method of transferring theoretical knowledge to the field. The three major areas of study are: 1) current theoretical approaches to intervention in human services, 2) development of the generic skills of assessment, planning, referral, implementation, and evaluation, and 3) supervised field work in a human service agency.

**HS 614 Family Systems**
Students will be expected to know and understand social and clinical theories of the family, its history, development, structure and functioning in today's society. Knowledge will be demonstrated through the comprehension and detailed case analysis of two families.

**HS 620 Accounting for Human Services**
Students will be expected to demonstrate knowledge of basic bookkeeping and accounting procedures for non-profit and government organizations, and principles of financial control and budgeting.

**HS 621 Personnel Administration in Human Services**
Through use of a test, selected readings, discussions and case material, students will study a range of topics important in personnel administration in human services including hiring procedures, personnel policies, employee evaluation, in-service training, government regulation, affirmative action and labor relations.

**HS 622 Marketing Human Services**
Students will understand the basic principles of marketing theory and be able to apply these to both public and nonprofit human service organizations.

**HS 623 Financial Management in Human Services**
Students will study a variety of generic financial management areas which have particular importance for human service organizations and be provided an in-depth review of Massachusetts state agency fiscal procedures and requirements.

**HS 624 Organizational Behavior**
Students will review the major theoretical literature on the nature of organizations and behavior in organizations including studies of structure, management style, theories of motivation, individual and work group behavior.

**HS 630 Planning in Human Services**
Students will be introduced to the theories and methodologies of planning in response to a problem presented by a client group or to a problem within a human service agency. Knowledge level skill will be demonstrated in utilizing a planned approach to a problem situation and assessing and adjusting for its impact on the system.

**HS 631 Human Services Needs Assessment**
Students will investigate the variety of methodologies of conducting needs assessment in human services organizations. Through case studies and work on projects, they will develop skills in selecting methodologies, carry out assessments, and critically interpret data and present the results.

**HS 632 Evaluation Research**
Students will be expected to understand how to select and measure appropriate dependent and independent variables, how to choose and apply a variety of research designs, how to interpret data and results, and how to set up systems for informed consent and client confidentiality. Skill will be demonstrated in designing an appropriate, feasible and valid research design for a program or issue in human service delivery.

**HS 633 Fundraising and Grant Seeking**
Students will study the various funding options for human service programs including federal, state, local, fee-for-service and private fund raising. The history of government funding of human services will be explored, taking into consideration current economic and policy trends. Skills will be developed in proposal writing and fund raising strategies.

**HS 634 Computers and information Systems**
Students will be exposed to the range of computer hardware and software available for information systems, the design and programming needs for the program, and personnel and financial information systems.

**HS 640 Group Dynamics**
Students will explore research and theories of the dynamics of small groups, including group purpose, role functions, group development and cohesion, and conflict resolution. Techniques for working with small groups as leader or facilitator will be studied. Theory and practice will be integrated in experiential situations.

# Mathematics
## Computer Science

## Human Services

**HS 641 Prevention Programming**
Students will review the research literature on prevention and examine the theoretical basis in health, mental health and social services for the categorization of interventions as primary, secondary, and tertiary. Students will engage in case projects on selected issues in the planning of primary intervention strategies.

**HS 642 Intermediate Statistics**
Students will be required to demonstrate a basic knowledge of probability theory, sampling techniques, descriptive statistics (measures of central tendency, measure of variability) and inferential statistics (hypothesis testing and estimation, using techniques such as t-tests, chi-square, correlation analysis of variance, and non-paremetric tests). They will be required to demonstrate familiarity with computer packages for the more advanced statistical tests. Skill will be demonstrated in selecting and applying appropriate statistical measures for data relevant to human services delivery. *Prerequisite: Undergraduate Statistics.*

**HS 643 Municipal Human Service Programs**
Students will be expected to demonstrate knowledge of the various human service programs operated by municipal government, available funding sources, inter-governmental relations and legal and political constraints.

**HS 644 Family Intervention**
Students will examine major theories of intervention with families in order to develop a coherent and realistic method of transferring theoretical knowledge in the field. The areas of study are: 1) current theoretical approaches to family intervention; 2) enhancement of skills of assessment, planning, referral, implementation and evaluation, and 3) supervised field work.

**HS 650**
**HS 651 Policy Analysis/Program Change**
A major independent project in which the student population develops knowledge, analytical skills, and/or problem solving strategies about a major theoretical issue, a specific client population, or a significant human services administration, planning, or delivery problem.

**Faculty**

**Bernice Auslander**, PhD, *University of Michigan*, Commutative Ring Theory

**Alfonso Azpeitia**, PhD, *University of Madrid*, Complex Analysis and Mathematical Programming

**Ethan Bolker**, PhD, *Harvard University*, Combinatorial Analysis

**James S Byrnes**, PhD, *Yeshiva University*, Analysis

**Daniel Comenetz**, PhD, *Brandeis University*, Algebraic Geometry

**Patricia Davidson**, PhD, *Harvard University*, Mathematics Education

**Ernest Elyash**, PhD, *Cornell University*, Probability

**Matthew Gaffney**, PhD, *University of Chicago*, Differential Geometry

**Colin Godfrey**, PhD, *Harvard University*, Algebra

**Michael Greeley**, PhD, *Northeastern University*, Differential Topology

**Hans Herda**, PhD, *Wayne State University*, Analysis

**Guy Hogan**, PhD, *Ohio State University*, Group Theory

**Herbert Kamowitz**, PhD, *Brown University*, Functional Analysis

**Linda Kime**, PhD, *Cornell University*, Algebra

**George Lukas**, PhD, *Brandeis University*, Programming Languages

**Joan Lukas**, PhD, *Massachusetts Institute of Technology*, Computability Theory and Formal Languages, Compilers

**John A Lutts**, PhD, *University of Pennsylvania*, Topology and History of Mathematics

**Robert A Morris**, PhD, *Cornell University*, Algebra and Computer Science

**Some Nath Mukherjee**, PhD, *BH University (India)*, Functional Analysis and Transform Calculus

**Kenneth Newman**, PhD, *Cornell University*, Algebra and Computer Mathematics, Data Structures

**Elizabeth O'Neil**, PhD, *Harvard University*, Applied Mathematics, Operating Systems

**Stephen K Parrott**, PhD, *University of Michigan*, Functional Analysis

**Geza Schay**, PhD, *Princeton University*, Probability

**Robert Seeley**, PhD, *Massachusetts Institute of Technology*, Partial Differential Equations

**Dan Simovici**, PhD, *University of Bucharest*, Formal Languages, Complexity Theory, Semantics of Programming Languages

**Dan Stefanescu**, SM, *Harvard University*, Software Engineering and Programming Languages

**Taffee Tanimoto**, PhD, *University of Pittsburgh*, Geometry

**Richard Tenney**, PhD, *Cornell University*, Computer Communication Protocols

**Michael B Tomlinson**, PhD, *University of Oregon*, Functional Analysis

**Richard Truesdell**, PhD, *Boston College*, Measurement and Evaluation

**Dennis Wortman**, PhD, *Massachusetts Institute of Technology*, Functional Analysis

# Mathematics

### The Program

The University of Massachusetts at Boston provides low-cost, high-quality post-graduate training in mathematics for a wide variety of students, full- and part-time. In order to maximize the accessibility of the program all graduate courses are scheduled in the late afternoon and evening. The program consists of two tracks: Mathematics and Computer Science.

### The Track in Mathematics

While the program offers the opportunity for advancement in mathematical knowledge to all qualified students, it has three major objectives:

A. To prepare students for graduate work in pure mathematics at the doctoral level.

B. To provide professional preparation for teaching mathematics up to the two-year college level. In this connection, students may combine graduate courses in mathematics with offerings in the Secondary Education Program.

C. To offer the opportunity for professional advancement to teachers already in service.

### Degree Requirements

To earn a Master's Degree in Mathematics, a student must:

1. Pass ten courses (30 credits) at least six of which must be numbered 600 or above, and which must include 611 (Modern Algebra I), 621 (Complex Variables I), 623 (Real Variables I), and 625 (Topology I) or their equivalent. Math 601 (Advanced Linear Algebra) or its equivalent will be a requirement for students having less than one year of linear algebra. No more than three of the ten courses counted toward the Master's degree may be taken outside the program. They must be graduate courses and two must be related to mathematics. With the approval of the graduate program, three credits, substituting for one of the elective courses, may be earned by participating in a Graduate Seminar which will involve independent reading and expository work both oral and written.

2. Pass the Master's Written Qualifying Exam. This exam consists of two parts, each of which lasts four hours; one part covering algebra and topology, and the other, analysis. Knowledge of the material through the level of 611, 621, 623 and 625 should be sufficient to enable the student to pass the exam.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

At least 18 semester credit hours in undergraduate mathematics beyond the content of differential and integral calculus are normally required of each candidate entering the Master's program. A one-year course in advanced calculus and a one-year course in linear algebra are desirable.

### The Track in Computer Science

The Computer Science Track of the mathematics MA program is intended as preparation for high-level professional careers in research and commercial applications. It also provides the background for further graduate work. The track stresses the integration of theoretical knowledge with practical applications. The central course in the curriculum is a two-semester sequence in software engineering with significant design and implementation experience. Other topics stressed include compilers, operating systems and theoretical computer science. In order to maximize the accessibility of the track, all graduate courses are scheduled in the late afternoon and evening.

### Degree Requirements

A minimum of 30 credits, at least 24 of which must be in courses numbered 600 or above and at least 21 of which must be in the graduate computer science courses listed below, is required.

The following are required courses:

- Software Engineering and Software Engineering Laboratory I and II (Math 650, 651, 660, 661—10 credits)
- Compilers I (Math 642—3 credits)
- Operating Systems (Math 668—3 credits)
- 6 credits in theoretical courses chosen from Theory of Computation (Math 640—3 credits), Semantics of Programming Languages (Math 620—3 credits) and Analysis of Algorithms (Math 682—4 credits)

The minimum passing grade for graduate credit in all courses is C. No more than two grades below B – may count for credit. Of these, no more than one grade below B – in the required courses may count toward the degree.

Students must also pass a qualifying examination consisting either of a general oral examination in Computer Science or an oral presentation of work accomplished during the Master's Program.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Entrance requirements include a good working knowledge of mathematics and computers. Each applicant's background will be assessed individually with respect to these skills. Roughly 21 semester credit hours of computer courses and 6 semester credit hours of mathematics beyond calculus would provide a minimum competency.

The program is designed to accommodate students with a wide range of backgrounds. In particular, the undergraduate degree need not be in computer science. Students can correct deficiencies by taking specific undergraduate courses, or, in appropriate cases, an intensive one-semester course in Foundations of Computer Science.

# Mathematics

**Math 601 Advanced Linear Algebra**
Staff
Linear and multi-linear algebra. Linear transformations. Spectra theory. Canonical forms. Dual spaces. Tensor products. Exterior algebra.
*Prerequisite: Math 261 or permission of instructor.*
3 Lect Hrs
3 Credits

**Math 610 Artificial Intelligence and Heuristic Programming**
Staff
Investigation of methods for making machines behave intelligently. Problem-solving, theorem-proving, game-playing, pattern recognition, question-answering, learning, induction, self-organization. Methods for programming such procedures. Data structure and program organization. Investigation and simulation of thought processes.
*Prerequisites: Math 301 and knowledge of LISP.*
3 Lect Hrs
3 Credits

**Math 611, 612 Introduction to Modern Algebra I and II**
Staff
Groups, rings, algebras, fields, modules. Tensor products. Homological algebra
*Prerequisite: Math 360 or permission of instructor.*
3 Lect Hrs per semester
3 Credits per semester

**Math 620 Semantics of Programming Languages**
Staff
This course presents some of the theoretical foundations of software engineering. Its main objectives are to enable programmers to formulate rigorous statements about the behavior of programs and to define precisely the meaning of different constructs occurring in programming languages.
*Prerequisites: Math 330, 342, 430 and 670 or equivalent.*
3 Lect Hrs
3 Credits

**Math 621, 622 Theory of Functions of a Complex Variable I and II**
Staff
Linear transformations of a complex variable. Power series and elementary functions. Holomorphic functions and Cauchy's Theorem. Theory of residues. Isolated singularities. Conformal mappings. Entire and meromorphic functions and their representations by means of products and partial fractions. Elliptic functions. Analytic continuation and Riemann surfaces. Algebraic functions.
*Prerequisites: Math 450 and 475 or permission of instructor.*
3 Lect Hrs per semester
3 Credits per semester

**Math 623, 624 Theory of Functions of a Real Variable I and II**
Staff
The real number system. Lebesgue measure and the Lebesgue integral. Differentiation. The classical Banach Spaces, general measure, and integration theory.
*Prerequisite: Math 450 or permission of instructor.*
3 Lect Hrs per semester
3 Credits per semester

**Math 625, 626 Topology I and II**
Staff
Topological spaces, classification, separation properties, cartesian products, mappings and continuity, connectedness, general convergence, compactedness, function spaces, introduction to homotopy theory. Algebraic topology.
*Prerequisite: Math 450 or permission of instructor.*
3 Lect Hrs per semester
3 Credits per semester

**Math 627, 628 Differentiable Manifolds I and II**
Staff
Topics to be selected from: differentiable manifolds, tangent spaces, tangent bundles, flows and vector fields. Lie derivatives, differential forms, generalizations of line and surface integrals. Divergence theorem and Stokes' theorem. Riemannian manifolds, Riemann surfaces. Relationships to vector analysis and to differential geometry.
*Prerequisites: Math 321, 475 and 665 or permission of instructor.*
3 Lect Hrs per semester
3 Credits per semester

**Math 629 Stochastic Processes I**
Staff
Probability spaces, measures, random variables, various modes of convergence, laws of large numbers and of the iterated algorithm. Central limit theorem conditioning martingales.
*Prerequisite: Math 623 or permission of instructor.*
3 Lect Hrs
3 Credits

**Math 630 Stochastic Processes II**
Staff
Processes with independent increments. Markov chains, stationary processes, continuous parameter Markov chains, diffusion processes, sample paths, separability, semigroups, boundaries.
*Prerequisite: Math 629 or permission of instructor.*
3 Lect Hrs
3 Credits

**Math 631 Partial Differential Equations I**
Hamilton-Jacobi Theory for equations of first order distributions. Fourier integrals of distributions. Sobolev spaces of distributions.
*Prerequisites: Math 310, 321, and 450 or permission of instructor.*
3 Lect Hrs
3 Credits

**Math 632 Partial Differential Equations II**
Staff
Elliptic equations, Garding's inequality, smoothness of solutions, solutions of the Dirichlet problem, hyperbolic equations, the Cauchy problem.
*Prerequisite: Math 631 or permission of instructor.*
3 Lect Hrs
3 Credits

**Math 640 Theory of Computation**
Staff
Functions computable by programs. Recursive functions and Turing Machines; simulation and diagonalization. Universality and unsolvable problems. Kleene's hierarchy and the recursion theorem. Gregorczyk's hierarchy and Ackermann's function. Abstract complexity and the speed-up theorem. Formal languages and classes of automata. Inherently difficult combinatorial problems.
*Prerequisites: Math 301 and 330.*
3 Lect Hrs
3 Credits

**Math 642 Compilers I**
Staff
Introduction to compiler organization and construction techniques. Lexical analysis, parsing, symbol tables and attributed synta trees. Internal forms of the source program. Storage allocation, error recovery, code generation, code optimization. Translation systems. Programming practice writing a compiler for a reasonably large subset of ALGOL, Pascal or similar algebraic language.
*Prerequisite: Math 342 or equivalent.*
3 Lect Hrs
3 Credits

# Mathematics

**Math 643 Compilers II**
Staff
Extension of topics in Math 642 with emphasis on code generation and optimization. Case studies of existing implementations. Team projects leading to relatively large-scale implementations.
*Prerequisite: Math 642.*
3 Lect Hrs
3 Credits

**Math 650 Advanced Software Engineering I**
Staff
This course is concerned with the long-term, large-scale programming projects. Topics covered will include software engineering management, problem analysis, problem specification, system design, system documentation, testing, performance evaluation, system maintenance, current and future software environments.
*Prerequisites: Math 301 and 330.*
*Corequisite: Math 651.*
3 Lect Hrs
3 Credits

**Math 651 Laboratory in Software Engineering I**
Staff
Students, working in small groups, will specify, design, implement and document a large software project.
*Prerequisites: Math 301 and 330.*
*Corequisite: Math 650.*
3 Lect Hrs
3 Credits

**Math 660 Advanced Software Engineering II**
Staff
Continuation of Math 650.
3 Lect Hrs
3 Credits

**Math 661 Laboratory in Software Engineering II**
Staff
Continuation of Math 651.
3 Lect Hrs
3 Credits

**Math 665 Computer Communications Networks**
Staff
A study of networks of interacting computers. The problems, rationales, and possible solutions for both distributed processing and distributed databases will be examined. Major national and international protocols including SNA, X.21 and X.25 will be presented.
*Prerequisite: Math 368.*
3 Lect Hrs
3 Credits

**Math 667 Computer Architecture**
Staff
Introduction to the hardware and logical design of digital computers. Design of basic logic modules, arithmetic units and memories. Fixed and microprogrammable control structures. Computer architecture. Hardware facilities for multi-programming and multi-processing. Memory protection and addressing mechanisms; interrupts and locks. Knowledge of some assembly language is recommended.
*Prerequisite: Math 301 or equivalent.*
3 Lect Hrs
3 Credits

**Math 668 Operating Systems (Logical Design)**
Staff
Mutually suspicious parallel processes: semantic notions concerning control and coordination. Process cooperation. Protection, allocation, mutual exclusion, interrupt and signal transmission, protected entries. Static and dynamic checking schemes. Priority, pre-emption "nested" design. Capability-based protection schemes. Deadlocks, their analysis, prevention and removal. Logical design of file subsystems. Typical operating systems: batch, multiprogramming, time sharing, multiprocessing, and real-time. Case studies: UNIX, MULTICS, NOS, HYDRA, etc.
*Prerequisites: Math 301, 345 and 368.*
3 Lect Hrs
3 Credits

**Math 680 Data Base Management Systems**
Staff
Introduction to the theoretical and practical aspects of data base management systems. Fundamental data base concepts, such as data models and submodels, plus the data and storage structures used to represent such models, will be covered. Each of the three major approaches to data base systems, relational, hierarchical, and network, will be presented, and commercial data base systems which follow these approaches will be discussed. Operational requirements such as security, integrity, and concurrency will also be discussed.
*Prerequisites: Math 301 and Math 330.*
3 Lect Hrs
3 Credits

**Math 682 Analysis of Algorithms**
Staff
Algorithmic analysis and combinatorial algorithms. Integers, sets, and their representation, enumeration and counting methods, algorithms on linear graphs: shortest paths, optimal branching, isomorphism, etc., properties of trees, algorithms on trees, computational problems in algebra. Classes P and NP of algorithms. Network flow and matching algorithms. Matching in graphs; algorithms for packing; Huffman coding. Branch-and-bound algorithms. Combinatorial generators. Random permutations and other random combinatorial objects. Algorithms for graphs. Graph reducibility, substructures, and paths of graphs. Switching and sorting networks. Equivalence class identification and other miscellaneous algorithms. Analysis of the general problem of the storage and execution time requirements of important sorting and searching algorithms.
*Prerequisites: Math 330 and Math 345.*

**Math 689, 690 Special Topics I and II**
3 Lect Hrs
3 Credits

# Applied Physics

### Faculty

**Marvin M Antonoff**, PhD, *Cornell University,* Theoretical Solid State Physics

**Leonard A Catz**, PhD, *Hebrew University of Jerusalem,* Experimental Atomic and Nuclear Spectroscopy

**Edward S Ginsberg**, PhD, *Stanford University,* Theoretical Elementary Particle Physics

**Peter Gordon**, PhD, *Brandeis University,* Quantum Measurement Theory

**Ernest A Lynton**, PhD, *Yale University,* Low Temperature Physics

**Donald H Lyons**, PhD, *University of Pennsylvania,* Theoretical Solid State Physics

**Harold P Mahon**, PhD, *University of Washington,* Energy Concerns and Experimental Magnetic Resonance

**Arthur W Martin**, PhD, *Stanford University,* Theoretical Elementary Particle Physics

**Benjamin R Mollow**, PhD, *Harvard University,* Theoretical Quantum Optics

**Martin Posner**, PhD, *Princeton University,* Biophysics, Cell Physiologic and Molecular Studies

**D V G L N Rao**, DSc, *Andhra University of India,* Experimental Laser Research, Nonlinear Optics

**George Salzman**, PhD, *University of Illinois,* Theoretical Research in General Relativity, Science for Humane Survival

**Nareshchandra P Shah**, PhD, *Stanford University,* Experimental Low Temperature Physics, Positron Annihilation

**John R Shane**, PhD, *Massachusetts Institute of Technology,* Experimental and Theoretical Solid State Physics

### The Program and Facilities

The Applied Physics Program is intended primarily to prepare students for rewarding technological careers in industrial and government research laboratories, although it also provides strong preparation for subsequent training at the doctoral level. The program emphasizes the development of practical laboratory skills, through broad experience in experimental coursework, and the mastery of the fundamental areas of theoretical physics at the level appropriate to the Master's degree. Auxiliary skills in computer programming will also be developed. The program maintains a close interaction with industrial and government research laboratories in the greater Boston area.

Following the initial year of coursework, qualified students may opt for an internship placement in an industrial research laboratory in the area. These paying positions provide further training and useful job experience in preparation for a technological career. Students who choose not to participate in an internship may complete the requirements for the Master's degree through a supervised thesis project in the research laboratory of a member of the faculty.

The Physics Department is located in the large and well-equipped Science Building at the Harbor Campus. Facilities include ample teaching and research laboratories, a science library, computing facilities, electronics and machine shops.

Research laboratories include:

- ultrasonic spin resonance
- low temperature studies
- quantum electronics
- nuclear spectroscopy
- millimeter-wave magnetic resonance
- biophysics

### Degree Requirements

Thirty credits are required for Master's Degree in Applied Physics apportioned as follows: Three one-semester laboratory courses, three one-semester theoretical courses, two Applied Physics elective courses to be chosen in consultation with the faculty advisor, totaling at least 3 credits each, 24 credits; and either an internship at an off-campus research laboratory or an on-campus thesis project, either of which earns 6 credits.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

An applicant for admission to the Graduate Program in Applied Physics should present adequate evidence of his or her preparation and ability to do graduate work. Normally a Bachelor's degree with a major in physics is required, though in certain instances other equivalent preparation may be acceptable. For applicants now or recently in college, the three letters of recommendation should come from professors in the field of physics or in closely related fields. For an applicant who has been working in scientific research laboratories for several years it may be more valuable to have one or more of the letters from senior scientists who are familiar with the applicant's work. It is also recommended, but not required, that an applicant plan a visit to the Department for informal contacts with the faculty and to become acquainted with the research facilities.

**Phys 600 Electronic Instrumentation I—Analog**
Staff
A lecture and a laboratory course in analog electronics. Emphasis is placed on pragmatic and intuitive approaches to analog electronic circuit designs. A supervised independent project illustrating an aspect of basic analog electronics is required of each student.
*Prerequisite: Graduate standing or permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Phys 601 Electronic Instrumentation II—Digital**
Staff
A lecture and a laboratory course to provide understanding of digital electronics and microprocessors. Emphasis will be placed on digital logic components, digital circuit design, and techniques for incorporating microprocessors and microcomputers into laboratory experiments.
*Prerequisite: Graduate standing or permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

# Applied Physics

**Phys 602 Laser Optics Laboratory**
Staff
A lecture and laboratory course to provide a working understanding of modern optics, lasers and applications. Topics include optical resonators, solid state, gas and semiconductor lasers, tunable dye lasers, non-linear optics and spectroscopy applications. Selected topics, which may vary from year to year according to the interests of the staff and recent developments in technology, will stress practical instrumentation as well as relevant theory.
*Prerequisite: Permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Phys 603 Nuclear Radiation Physics and Biophysics Laboratory**
Staff
A laboratory-based course to illustrate the theory and experimental techniques utilized in nuclear radiation physics and biophysics. Topics include modes of production of nuclear radiation (charged particles, electromagnetic, neutrons), interaction of radiation with matter (including biological tissue), instruments and techniques for radiation detection and spectroscopy, radiation protection and safety, and the use of radioisotopes in physical, chemical and biomedical research. Selected topics may include: neutron activation analysis, X-ray fluorescence, the Mossbauer effect, radioimmunoassay techniques utilizing radioisotopes, computer assisted tomography (CAT), and experiments on the interaction of radiation with tumor cells.
*Prerequisite: Permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Phys 604 Cryogenics and Vacuum Technology**
Staff
A lecture and laboratory course to provide a working understanding of modern practice in cryogenics and vacuum technology. Topics include low temperature properties of materials, gas purification, separation and liquification systems, instrumentation for measurement of temperatures and pressure and vacuum technology. Selected topics, which may vary from year to year according to the interests of staff and recent developments in technology, will stress practical instrumentation and applications.
*Prerequisite: Permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Phys 605 Energy Laboratory**
Staff
A lecture and laboratory course focusing on small scale technology and methods for improving the efficiency of energy use. Topics representing current activities of the staff, and student interests, may include: methods for passive and active solar collection, computer based instrumentation techniques, energy auditing of industrial processes, alternative techniques for saving energy in residential buildings, and computer modeling of building energy performance and the effect of parametric modifications to the envelope, HVAC and other energy systems of commercial buildings.
*Prerequisite: Permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Phys 608 Biophysical Instrumentation**
Staff
A lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is on techniques for interfacing the microcomputer to laboratory experiments for automated data acquisition, data reduction and analysis, information display and real-time control of experiments. Also listed as Biology 608.
*Prerequisite: Graduate standing or permission of instructor.*
2 Lect Hrs, 4 Lab Hrs
3 Credits

**Phys 609 Physics of Medical Imaging**
Staff
General introduction to the physical principles involved in various medical imaging modalities, including x-ray imaging, x-ray tomography, radio-nuclide imaging, ultrasonic imaging, nuclear magnetic resonance imaging.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs, 1 Disc Hr
3 Credits

**Phys 610 Topics In Medical Imaging**
Staff
This course will focus on an in-depth study of specific topics in the various medical imaging modalities.
*Prerequisite: Physics 609 or permission of instructor.*
3 Lect Hrs, 1 Disc Hr
3 Credits

**Phys 611 Theory of Classical Mechanics and Fluid Mechanics**
Staff
Principles of classical mechanics. Generalized coordinates, Lagrangian and Hamiltonian formulations, variational principles, multiple periodic systems, continuous media, fluid mechanics.
*Prerequisite: Permission of instructor.*
3 Lect Hrs, 1 Disc Hr
3 Credits

**Phys 612 Electromagnetic Theory**
Staff
A lecture course to develop electromagnetic theory and to treat various applications. Topics include Maxwell's equations in vacuum and in material media, electromagnetic theory of continuous media, reflection, refraction, diffraction and radiation of electromagnetic waves. Applications will be selected from such topics as wave guides and resonant cavities, and magnetohydrodynamics and plasma physics.
*Prerequisite: Permission of instructor.*
3 Lect Hrs, 1 Disc Hr
3 Credits

**Phys 613 Quantum Mechanics, Atomic and Molecular Physics**
Staff
A lecture course on the fundamental principles and applications of the quantum theory of matter. Topics include bound systems (potential well harmonic oscillator, hydrogen atom), angular momentum, spin, identical particles, the periodic table, exchange forces, chemical bonding, linear vector spaces, perturbation theory. Other topics, e.g., magnetic resonance, symmetry groups, elementary particles, will be selected according to student and faculty interests.
*Prerequisite: Permission of instructor.*
3 Lect Hrs, 1 Disc Hr
3 Credits

# Public Affairs

## Applied Physics

**Phys 614 Thermodynamics and Statistical Mechanics**
Staff
A lecture course on the principles of thermodynamics and statistical mechanics. Topics include: fundamentals of thermodynamics, first and second laws, thermodynamic potentials, phase transitions, classical kinetic theory, classical statistical mechanics, and quantum statistical mechanics. Applications of the principles will be made to physical, chemical, and biological systems of special or current interest.
*Prerequisite: Permission of instructor.*
3 Lect Hrs, 1 Disc Hr
3 Credits

**Phys 680 Readings In Physics**
Staff
An opportunity for qualified graduate students to pursue advanced independent study of specialized topics in Applied Physics, with guidance of a faculty member.
*Prerequisite: Permission of the department.*
Hrs by arrangement
3-6 Credits

**Phys 690 Projects in Physics**
Staff
Qualified graduate students can pursue advanced independent projects in Applied Physics with the guidance of a faculty supervisor.
*Prerequisite: Permission of the department.*
Hrs by arrangement
3-6 Credits

**Phys 699 Master's Thesis Research**
Staff
*Prerequisite: Permission of the department.*
Hrs by arrangement

**Phys 694 Master's Internship**
Staff
Internship in collaboration with industry in the greater Boston area. Requires a faculty supervisor in physics department.
*Prerequisite: Permission of the department.*
Hrs by arrangement
3-6 Credits

### Faculty

**Irving H Bartlett**, PhD, *Brown University,* American Civilization

**Edmund Beard**, PhD, *Columbia University,* Political Science

**Murray Frank**, PhD, *Brandeis University,* Public and Community Service

**Candace Hetzner**, PhD, *University of Chicago,* Management

**Joan Liem**, PhD, *Boston University,* Psychology

**Franklin Patterson**, PhD, *Claremont Graduate School,* Political Science

**Raymond Torto**, PhD, *Boston College,* Economics

### The Program

The Master of Science in Public Affairs program focuses on three broad goals: to provide students with a detailed, accurate picture of the political and economic environments on the national, state, and local levels; to give them needed historical and cultural perspectives on public life in the region; and to insure that they have the kind of technical, professional, analytical and managerial skills needed to function effectively in the public realm. The program also includes intensive analyses of current policy issues, and intentionally concentrates on topics relating to metropolitan Boston, Massachusetts, and New England. Students are normally sought who are currently employed and who have had several years' experience in the public, private, and not-for-profit sectors, although students who have just completed an undergraduate degree are also considered. Those coming from the private sector usually hold or aspire to positions of authority in their organization's community relations, governmental affairs, or long-range strategic planning divisions. As most students are employed full time, the program operates on an evening and weekend schedule. In addition to the faculty members listed above, the program also draws on other faculty from throughout the University.

### Curriculum

The program offers courses grouped in the following five areas:

1. The New England political and economic environments
2. History, culture and policy in New England
3. Public management, organizational behavior, public budgeting and financial management, and program evaluation
4. Analytical skills for policy makers
5. Issue and policy analysis

# Public Affairs

**Degree Requirements**

Thirty-eight graduate credits are required to complete the program. These credits are earned by completing nine three-credit courses distributed among the areas noted above, eight one-credit weekend intensive modules (two per semester for four semesters), and a final case study seminar which carries three credits.

The curriculum for the MS in Public Affairs is highly structured. Students are expected to proceed through the program as a group, taking all courses in the proposed sequence. In order to accommodate students who have already had graduate training in one or more of these areas, the program allows students to transfer up to two equivalent courses into the program. In addition, students may take up to two independent study courses in place of required courses that have been completed elsewhere.

**Admission Requirements**

Each student must submit a completed application form, three letters of recommendation, a resume, a letter of intent describing his or her interest in the program, and all undergraduate and graduate transcripts.

**PbAff 601 The New England Political Environment**
Staff
Introduction to the key contemporary systems that now constitute the environment in which legislative and executive policy-making and implementing processes work. This course is designed to provide a thorough understanding (in theory and practice) of: where, how, and by whom policy is made and implemented; how the process is/can be influenced; who pays and who benefits; and how to evaluate results (intended and actual).
3 Lect Hrs
3 Credits

**PbAff 602 The New England Economic Environment**
Staff
This course introduces the student to the theory and tools of regional economies as a framework for analyzing policy issues. The economic and fiscal structure of Massachusetts is studied to identify the inner and outer-workings of the Massachusetts economy vis-a-vis New England and the nation. The latter part of the course focuses on the economics of major issues facing policy makers. Such issues include public and private housing, health care costs, public pensions, fiscal and economic competitiveness and a study of the economics of the capital city: Boston.
3 Lect Hrs
3 Credits

**PbAff 603 Foundations of American Culture**
Staff
The module begins with discussion of the culture concept and then concentrates on three traditions within our culture that have decisively shaped American values, behavior and institutions ever since the first settlements: Puritanism, a "liberal consensus" (belief in constitutional self-government and private property), and individualism.
Hrs by arrangement
1 Credit

**PbAff 604 A Changing American Culture**
Staff
This module will require students to consider the changes taking place in the American family and life style, in the work place and in political behavior. How did policy making at the national and local levels contribute to the American record of spectacular growth? What were the human and environmental costs? To what extent can policy makers today expect to have to cope with cultural discontinuity? If post-industrial society is upon us, how will this affect the management of public and private institutions?
Hrs by arrangement
1 Credit

**PbAff 605 The Public Interest**
Staff
This module will be devoted to the philosophical assumptions underlying ideologies on the right (the negative state, free market, unlimited personal choice, etc.) and the left (the importance of community, the need for public power to promote the common good, etc.). The course will discuss definitions of "the public interest" and try to resolve them.
Hrs by arrangement
1 Credit

**PbAff 610 Public Management: Theories and Principles**
Staff
This course will require students to know, analyze and apply the planning, organizing, directing and controlling functions of the public sector manager. Particular attention will be given to such issues as establishing effective horizontal and vertical lines of communication, motivating individuals, understanding individual and group behavior, and measuring productivity. Case studies and role playing exercises will be extensively utilized to help the students respond effectively to the typical challenges and problems of public sector management.
3 Lect Hrs
3 Credits

**PbAff 612 Organizational Behavior**
Staff
This course will examine the nature of human behavior in public sector organizations as a function of the individual, the groups within which he or she interacts, and the organizational setting. Topics will include such things as motivation, leadership, adaptation, socialization, conflict, and communication.
3 Lect Hrs
3 Credits

**PbAff 614 Human Resource Management**
Staff
This course is designed to familiarize students with human resources management in the public sector, i.e., personnel management practices and the practice of labor-management relations. The first half of the course examines the basic concepts of human resources management and the principles of planning and forecasting human resources needs. This part of the course will examine such things as career planning and management, job design, pay systems, selection, training, and equal opportunity. The second half of the course explores the nature and history of labor management relations. This half of the course will focus on the tactics and strategies of management and union representatives and the legal constraints on their behavior in: (1) the organization of public employee unions; (2) contract negotiation; and contract administration and interpretation.
3 Lect Hrs
3 Credits

**PbAff 620 Analytic Skills for Policy Analysis I**
Staff
Introduction to descriptive and inferential statistics, including hypothesis testing, analysis of variance, and correlation, with appropriate computer applications.
3 Lect Hrs
3 Credits

**PbAff 621 Analytic Skills for Policy Analysis II**
Staff
Understanding the use and interpretation of sophisticated quantitative techniques, including multiple regression analysis and other multivariate statistical techniques, input-output analysis, linear programming and simulation models. Review of current computer software packages for statistical analysis.
3 Lect Hrs
3 Credits

# Reading

## Public Affairs

**PbAff 625 Public Budgeting and Financial Management**
Staff
The public budgeting process in theory and practice. Students will be introduced to contemporary approaches to public budgeting as well as to the difficulty of planning in the public sector, the dilemmas of choice and of priority setting, the results of incrementalism, and the nature of budgetary "rationality." In addition, the course will examine the nature and scope of public financial management at the state and local level. It will familiarize students with state and local government financial reporting and accounting, current operating expenditures, techniques for evaluating capital expenditures and products. It will explore borrowing and debt management, evaluation of municipal credit quality, managing cash assets and liquid securities, simulations and financial forecasting, and evaluating and controlling financial management practices.
3 Lect Hrs
3 Credits

**PbAff 645 Program Evaluation**
Staff
This course explores the issues involved in and techniques applicable to evaluation of programs in the public sector. The course focuses on how to define programmatic objectives and output measures and how to develop evaluation methods and instruments. The course further addresses itself to how to implement such studies and demonstrate their worth.
3 Lect Hrs
3 Credits

**PbAff 651, 652, 653, 654, 655 Policy Workshops**
Staff
A series of weekend workshops, undertaken in cooperation with the John F Kennedy Library, which will address public policy issues of concern to the Commonwealth. Subjects might include regional economic development, land use policy, neighborhood planning, and urban water policy.
1 Credit Each

**PbAff 651 Columbia Point: Politics and Planning in the Boston Environment**
Staff
A history with analysis of the creation of, planning for, and utilization of Columbia Point. The rise, fall, and possible rise again of the housing project. The parallel rise and fall of the Bayside Shopping Mall and the future of the Expo Center. Locating of the University and the Kennedy Library. What lies ahead for the Point? The interaction of public and private purposes will be a continuous theme.
3 Lect Hrs
1 Credit

**PbAff 695, 696 Independent Study**
Staff
Advanced course of independent readings under the guidance, and subject to the examination of the instructor. Areas and topics according to student need.
Hrs by arrangement
1 Credit

**PbAff 699 Case Study Seminar**
Staff
Students in the MS in Public Affairs Program will have the opportunity to complete a final project under the supervision of a faculty advisor. The project may be a case study of a public policy or significant piece of legislation which involves tracing its history, analyzing the political, economic, and social context in which it developed, identifying and examining the roles played by those who were instrumental in its development, and assessing its intended and actual impact. It may also be a critical examination of a policy issue confronting a student at his or her place of employment. While completing their case study project, students will participate in a weekly seminar that focuses both on the substantive issues under examination and on case study methodology.
3 Credits

### Faculty

**Dolores Gallo**, EdD, *Harvard University*, Elementary Education, Creativity and Learning

**Frank J Luciano**, EdD, *Boston University*, Secondary Education, Reading in Content Areas, Language and Learning, Administration and Supervision

**Jean Phelan**, EdD, *Boston University*, Elementary Education, Learning Styles, Supervision, Research

**Mary E Rice**, PhD, *Boston College*, Diagnostic Techniques and Remediation Strategies, Program Evaluation, Special Needs, Practicum Supervision

### The Program

The graduate Program in Reading is designed as an intensive and sequential course of study which provides school personnel the opportunity to establish theoretical frames for practical applications. The combination of two supervised practica and coursework requiring field-based assignments allows the student to develop the professional competencies needed to become certified as a Consulting Teacher of Reading (all levels). The University offers students two options within the program, recognizing that some students may choose not to pursue certification. For the student not seeking certification, Practicum II is optional, and elective courses in an area of special interest may be substituted. Possible areas for consideration include: administration, special education, psychology, literature, and curriculum. Advisor approval is required.

### Degree Requirements

A minimum of thirty-three graduate credits is required to complete the program. Courses are, for the most part, offered in the late afternoon and evening, in addition to the summer, not only to accommodate teacher schedules, but to encourage educational practitioners to update skills and develop methodology and expertise in directing, motivating, assessing, and evaluating reading programs. Each student will be assigned an advisor to assist with program planning. Students are encouraged to meet with the advisor frequently. Each student must successfully complete a Final Comprehensive Examination.

The program provides:

- A sequential progression of coursework
- Flexibility of course selection dependent upon the students' academic preparation
- Field-based assignments that require the student to combine theory and practical application
- Supervised practica designed to broaden the students' experiential background and to allow the students to demonstrate competencies.

# Reading

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

The Reading Program will admit those applicants who present evidence of their ability to do graduate work with distinction. Such evidence must include:

1. A distinguished undergraduate transcript with, generally, an average of at least a B or 3.0 in the undergraduate Education major.
2. At least three positive and informed letters of recommendation submitted by persons who are knowledgeable about the candidate, who have worked closely with the applicant, and who have direct knowledge of the applicant's teaching skills.
3. Documentation of one year of successful teaching experience plus the possession of a Massachusetts classroom teaching certificate.
4. A written statement of intent by the applicant (600-1000 words) that includes his or her reasons for desiring to pursue this program and a description of his or her major fields of interest.
5. Submision of Graduate Record Examination scores, or Miller Analogies Test scores.
6. An interview.

The Reading Graduate Committee will review applications and make recommendations to the Deputy Provost for Graduate Studies and Research.

Note: Students in the Reading Program must complete CCT 601 (Critical Thinking). See the Critical and Creative Thinking section of this publication for the course description.

**Rdg 633 Adapting Reading Instruction for Special Needs Students**
Staff
This course focuses on identification techniques, program planning, and evaluation processes for special needs students. Remediation strategies are presented through a case study approach. An introductory course in reading is required.
3 Lect Hrs
3 Credits

**Rdg 634 Individualizing Instruction in Reading**
Staff
The course focuses on the knowledge needed by the classroom teacher and administrator to successfully implement and monitor an individualized program in reading. Appraisal procedures, management strategies, recording techniques, and reporting approaches are included. The material presented should be of particular interest to elementary and middle school personnel.
3 Lect Hrs
3 Credits

**Rdg 635 Reading for the Academically Talented Child**
Staff
The course will focus on identification techniques for gifted readers and program planning. Topics included are individualization, building independence in the content areas, research and study skills, discussion techniques, literature, and critical and creative reading skills.
3 Lect Hrs
3 Credits

**Rdg 636 The Reading Process: Programs and Priorities**
Staff
The course addresses the multifaceted nature of the reading process. Designed as the introductory course in the reading sequences. The teacher will develop the foundation understandings necessary to help students maximize their potential in becoming competent effective readers. The topics to be explored include: historical perspectives, current trends, sequential approaches to reading instruction, special needs learners, academically talented learners, reading study skills, content area reading, measuring and understanding student progress, and management strategies.
3 Lect Hrs
3 Credits

**Rdg 637 Seminar in Reading Research**
Staff
In this advanced course the student will be expected to demonstrate an awareness and knowledge of the research in the area of reading and the language arts in general, participate in presentations, discussions, and dialogue concerning the research findings and implications, and present a scholarly paper demonstrating an awareness of the pertinency and applicability of such research. The content of the course varies each semester.
*Prerequisites: Rdg 636, 641.*
3 Lect Hrs
3 Credits

**Rdg 638 Diagnostic Techniques in Reading and Remediation Strategies**
Staff
The course presents an in-depth examination of the diagnostic tools available to the Consulting Teacher of Reading. The student will be expected to demonstrate theoretical knowledge, interpretation skills, and the ability to transform this information into practical program planning. Remediation strategies will be introduced and explored as a preparation for the Practicum in Remediation where knowledge gained will be applied in a clinical setting.
*Prerequisites: Rdg 636 and 641, or permission of instructor.*
3 Lect Hrs
3 Credits

**Rdg 639 Administration and Supervision of the Reading Program**
Staff
This course is designed for administrators, coordinators, supervisors, and teachers interested in the administration and supervision of reading programs. The course considers administrative roles and responsibilities; structure and organization; home and community relationships; evaluation and assessment; staff training; curriculum development and improvement; current practices and innovative patterns; and field-based observation and research.
3 Lect Hrs
3 Credits

**Rdg 640 Reading in the Content Areas**
Staff
The course will familiarize the teacher with developmental reading techniques appropriate for students using various textual materials. Attention will be given to the integration and application of reading and study skills applicable to various content areas. The material presented should be of particular interest to middle and secondary school personnel.
3 Lect Hrs
3 Credits

# School Psychology

## Reading

**Rdg 641 Measurement and Evaluation of Reading**
Staff
The course focuses on developing the students' ability to locate, analyze, interpret, and apply data within the realm of education with particular emphasis on reading and the language arts. Students will be required to select evaluative procedures and demonstrate how the results might be used to improve instructional programs.
3 Lect Hrs
3 Credits

**Rdg 643 Theory of Language and Language Acquisition**
Staff
The course is designed to explore the theory of language; its evolution and history; the principles of language awareness and acquisition, linguistic and psycholinguistic elements of language; neurological substrates; and other cognitive aspects as they relate to reading abilities and disabilities.
3 Lect Hrs
3 Credits

**Rdg 644 Curriculum and Materials in Secondary Reading**
Staff
The course is designed to meet the needs of the reading specialist and the content area teacher. Curriculum will be studied, materials reviewed, and instructional materials and programs designed by the participants.
3 Lect Hrs
3 Credits

**Rdg 696 Independent Study**
Staff
This course involves the comprehensive study of a particular topic determined by the students' need; pursued under the guidance, and subject to the examination of the instructor.
Hrs by arrangement
3 Credits

**Rdg 697 Special Topics**
Staff
This advanced course will offer intensive study of selected topics in reading. The course content and credit will vary according to the topic. Written approval of the advisor is necessary one semester prior to that in which this course is to be taken.
Hrs by arrangement
2-6 Credits

**Rdg 698 Practicum I (Remediation)**
Staff
This course affords the student the opportunity to apply the knowledge gained in prior coursework in the program in an off-campus clinical setting. Each clinician is assigned two students and is expected to complete a diagnostic evaluation, submit a case study for approval, and execute a program of remediation under supervision. A one week orientation on campus is required. The daily tutorial period is followed by a seminar with the supervisor. Applications for Practicum I must be filed by March 15 prior to the summer during which the Practicum is to be taken.
*Prerequisites: Rdg 636, 638, 641 and permission of instructor.*
6 Credits

**Rdg 699 Practicum II**
Staff
This course is open only to matriculated students seeking certification as Consulting Teachers of Reading (All Levels) who have demonstrated competencies in all prior coursework in the program. The recommendation of the advisor and the approval of the Graduate Program Director are required one semester prior to undertaking Practicum II. A minimum of 120 clock hours will be required in a school setting under the supervision of a local practitioner and a university supervisor. The setting will be selected after consideration of the individual students' experiential and academic background plus advisor recommendation. A major project or paper is one of the expected outcomes of this practicum. In addition to the on-site experience, the student will attend a weekly seminar at the University.
6-9 Credits

### Faculty

**J Edward Conners**, EdD, *Boston University,* Abnormal Psychology

**Vincent A Cristiani**, EdD, *Boston University,* School Psychology, Developmental Psychology, Testing and Measurement

**Raymond R Gilbert**, PhD, *Harvard University,* Counseling Psychology

**Alan E Hastings**, PhD, *Western Colorado University,* Psychometric Techniques, Intelligence Testing

**Varda Konstam**, PhD, *Fordham University,* Special Education

**Doris S Norman**, EdD, *Boston University,* Special Education

**Arthur J O'Shea**, PhD, *Boston College,* Psychological Testing

**Jerrold M Pollack**, PhD, *Boston College,* Diagnostic Interviewing

**Samuel E Toto**, EdD, *Boston University,* Psychoeducational Prescriptions and Assessment

### The MEd Program

The Master of Education Program in School Psychology is designed to train its graduates to serve as certified school psychologists in schools or clinical settings, and is particularly appropriate for experienced teachers and others in professionally related fields of specialization. The program is vigorous and well structured; it is designed to meet Massachusetts state requirements for certification in school psychology. Graduates of the program generally serve as integral members of core evaluation teams, offering counseling, diagnostic and treatment services for pupils with emotional, learning, physical, intellectual, or educational difficulties and problems. As school psychologists, these graduates also provide assistance and consultative services to teachers, administrators, and other professionals.

### Degree Requirements

Candidates for the MEd Degree in School Psychology must successfully complete a minimum of 60 credits of approved graduate course work and a dual practicum, as well as a written comprehensive examination. Candidates who meet program degree requirements should also meet state certification requirements.

The following *required* courses are offered in the related fields of Counseling and Special Education. Please refer to the appropriate sections of this bulletin for course descriptions.

Counseling Program: Coun 601, 605, 607, 608, 614, 615, 616, 622.

Special Education Program: SpEd 607, 624, 629, 641.

# School Psychology

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The School Psychology Graduate Committee will review all applications and recommend admission for those applicants who present evidence of their ability to achieve graduate work with distinction. Such evidence normally will include:

1. A distinguished undergraduate transcript with generally at least an overall grade average of 2.75, as well as generally at least an average of 3.0 in all psychology courses.
2. A satisfactory score on either the Miller Analogies Test, or the Graduate Record Examination, Combined Aptitude Test, or the TOEFL.
3. An acceptable letter of intent, stating the applicant's professional objectives.
4. A satisfactory personal interview with the Program Director.

### The Certificate of Advanced Graduate Study (CAGS) Program

The CAGS in School Psychology Program consists of advanced professional graduate study, beyond the master's degree level, in the area of school psychology. The CAGS in school psychology program is specifically designed to meet the needs of each matriculated candidate.

The program is particularly suited to those who hold a master's degree in related fields, such as counseling, special education, teacher education, and clinical psychology, as well as to those who have already completed a master's program in school psychology. The program is geared to provide advanced professional training in school psychology and is designed to assist matriculated students in the program to satisfy the State certification requirements for school psychologists. A minimum of thirty semester-hours of credit and a practicum are generally necessary in order to fulfill program requirements.

A special combined Master's and CAGS program also exists. Students who have successfully completed, or have nearly completed, the sixty-credit-hour MEd in School Psychology program at the University of Massachusetts at Boston may apply for candidacy in the combined MEd and CAGS seventy-five-semester-hour program. Candidates will be required to complete a minimum of fifteen semester-hours of course work beyond the master's degree requirements. Students must also meet State certification requirements. Candidates who are not certified school psychologists may be required to complete more than the minimum course work and practicum, in order to meet the certification requirements of the Massachusetts State Department of Education.

### Admission Requirements (CAGS)

Please see the general statement of admission requirements for all Graduate Studies programs.

The Graduate Program Director and the School Psychology Graduate Committee will review all applications and recommend admission for those applicants who present evidence of their ability to perform advanced graduate level work with distinction. Such evidence will normally include:

1. A distinguished graduate transcript, indicating completion of at least a Master's degree in school psychology or a related field of study, and an overall average of at least 3.0 in all graduate courses.
2. Official transcripts of all previous college work, undergraduate and graduate. Transcripts must be official (bear the college seals) and must be from regionally accredited colleges and universities.
3. Three original letters of recommendation addressing the candidate's ability to succeed in advanced graduate training in school psychology. At least two of the letters, if possible, should be from instructors in the applicant's most recent Master's degree program.
4. A statement of intent to be included in the application form.
5. Submission of scores of the Miller Analogies Test or the Graduate Record Examination, if the most recent Master's degree was earned prior to five years of the date of the receipt of the application form by the Admissions Office. (No entrance test or examination is necessary if the Master's degree was earned in the last five years prior to receipt of the application form by the Admissions Office.)
6. A satisfactory personal interview with the Program Director.
7. For applicants who have earned a Master's degree at UMass/Boston, submission of documents used in support of their application to those programs to support their application to this program. (optional)

**SchPsy 601 Issues in School Psychology**
Staff
The course includes a study of the professional identity and function of the psychologist in the public school setting. An intensive analysis of the philosophical, technical, and administrative issues is conducted. School organizations, federal and state educational laws, ethical issues and dilemmas, APA standards, and multipluralistic assessments are areas which are explored in depth.
3 Lect Hrs
3 Credits

**SchPsy 602 Advanced Psychopathology**
Mr Conners
An intensive study of behavior disorders with particular emphasis on neurosis and psychoses, character personality disorders, and psychosomatic conditions. In-depth analysis of individual cases will provide the basic materials for illustration. Consideration and critical discussion of research findings and theories of behavioral symptom formation, and etiology of behavioral disorders.
3 Lect Hrs
3 Credits

# School Psychology

**SchPsy 603 Individual Intelligence Testing**
Staff
Administration, scoring, and interpretation of two individual intelligence tests (Wechsler Scales and Stanford Binet). Emphasis placed on a psychoeducational model of interpretation. The place of these instruments in a total evaluation of the individual will be considered. Ethical considerations and dangers of misuse will be discussed. Students will have opportunities to share feedback about administration experiences, and protocol interpretation in class.
3 Lect Hrs
3 Credits

**SchPsy 604 Advanced Psychometic Techniques I**
Mr Hastings
Explores devices of a projective and semi-projective nature, especially those instruments applicable to school psychology and mental health clinics. Will focus on an investigation of the projective aspects of the Wechsler Scales, surface projectives, sentence completion, and draw-a-person.
3 Lect Hrs
3 Credits

**SchPsy 605 Advanced Psychometic Techniques II**
Mr Hastings
Explores devices of a projective and semi-projective nature, especially those instruments applicable to school psychology and mental health clinics. In-depth study of the Bender Gestalt, the Thematic Apperception Test, and the MMPI.
3 Lect Hrs
3 Credits

**SchPsy 606 Techniques of the Diagnostic Interview**
Staff
The purpose of this course is to provide an introduction to the use of the clinical interview in both clinical and educational settings. Emphasis will be placed on the integration of interview data with multiple data sources, including supplementary behavior observations, psychological test data, and history, and the use of the interview as a springboard for decision-making regarding the need for further diagnostic assessment and/or educational and treatment planning.
3 Lect Hrs
3 Credits

**SchPsy 607 Psychoeducational Prescriptions**
Mr Toto
Attention is focused on the techniques of synthesizing psychological information into an effective, individually appropriate educational plan.
3 Lect Hrs
3 Credits

**SchPsy 691 Seminar in School Psychology**
Mr Cristiani
Seminar course to be taken in conjunction with each of the required two Practicums in School Psychology. Course consists of lectures, discussions, case studies, assessments and core evaluations, and general topics, issues and experiences related to the Practicum. Each seminar course earns three of the six credits granted toward the successful completion of a practicum experience.
3 Lect Hrs
3 Credits

**SchPsy 696 Independent Study in School Psychology**
Mr Cristiani, Staff
Research and reading in an area of school psychology chosen by the student and approved by the instructor. Open only to graduate degree and certificate candidates who are matriculated in the School Psychology program.
*Prerequisite: Permission of the Graduate Program Director.*
Hrs by arrangement
3-6 Credits

**SchPsy 697 Special Topics in School Psychology**
Staff
Intensive study of a selected topic in school psychology. Offered only to degree and certificate candidates.
*Prerequisites: Permission of the departmental curriculum committee and approval of the Graduate Program Director.*
3 Lect Hrs
3-6 Credits

**SchPsy 698 Practicum in School Psychology**
Mr Cristiani
Full-time practicum placement, consisting of a minimum of 300 clock hours of field experience in either an elementary or secondary school setting under the supervision of a practicing certified school psychologist. A dual practicum, consisting of a minimum of 600 clock hours, is required for state certification. If a minimum of 400 clock hours of field experience in a school setting has been completed in the first practicum, the second practicum may be conducted in a clinical setting, if desired, under the supervision of a licensed and/or certified psychologist. University supervision is required.
6 Credits (each practicum)

# Applied Sociology

### Faculty

**James E Blackwell**, PhD, *Washington State University,* Social Problems, Race and Ethnic Relations

**Harry Brill**, PhD, *University of California, Berkeley,* Social Policy, Urban Sociology

**Obie Clayton, Jr**, PhD, *Emory University,* Criminology, Corrections, Research Methodology, Social Psychology, Demography

**Ann Cordilia**, PhD, *University of Chicago,* Criminology, Evaluations Research, Alcohol Addiction, Social Deviance and Control

**John K Dickinson**, PhD, *University of Marburg,* Social Problems, Demography, Family

**Estelle Disch**, PhD, *Tufts University,* Human Services Organizations, Social Psychiatry

**Gerald R Garrett**, PhD, *Washington State University,* Criminology, Corrections, Social Deviance and Control, Alcohol Addiction, Evaluations Research

**Sue Gore**, PhD, *University of Pennsylvania,* Medical Sociology, Research Methodology

**Dennis Humphrey**, EdD, *Boston University,* Social Policy and Corrections, Communication and Technology, Statistical and Applied Social Research

**Glenn Jacobs**, PhD, *Temple University,* Sociological Theory, Social Problems, Field Work Methods

**Gregory Johnson**, PhD, *Harvard University,* Sociology of Law, Narcotics Addiction, Social Problems, Medical Sociology

**Lawrence Kamara**, PhD, *Boston University,* Family, Sociological Theory, Race and Ethnic Relations, Sociology of Aging

**Richard Kronish**, PhD, *University of Wisconsin, Madison,* Social Deviance and Control, Sociology of Work

**Calvin J Larson**, PhD, *University of Oregon,* Sociological Theory, Criminology, Urban Sociology

**Siamak Movahedi**, PhD, *Washington State University,* Criminology, Social Psychiatry, Research Methodology

**Richard Robbins**, PhD, *University of Illinois,* Race and Ethnic Relations, Social Problems, Urban Sociology

**Russell K Schutt**, PhD, *University of Illinois, Chicago,* Sociology of Law, Sociology of Work, Research Methodology

**Sharon Stichter**, PhD, *Columbia University,* Comparative Sociology and Deviance, Political Sociology, Social Change and Modernization

**Daisy M Tagliacozzo**, PhD, *University of Chicago,* Complex Organizations, Human Services Organizations, Sociology of Professions, Medical Sociology

**Elizabeth Useem**, EdD, *Harvard University,* Sociology of Education, Society and Technology

**Robert Weiss**, PhD, *University of Michigan,* Research Methodology, Family, Sociology of Youth

**Gordon Zahn**, PhD, *Catholic University,* Sociological Theory, Sociology of Religion, Conflict, Collective Behavior

### The Program

The Master of Arts Program in Applied Sociology, through courses and internships, emphasizes theory, methodology and techniques directly applicable in professional settings, such as criminal and juvenile justice agencies, human services organizations, hospital and health care institutions, agencies for alcohol and narcotics addicts, and other private or public organizations. Course work in core areas, such as human services as complex organizations, social policy analysis, applied and evaluations research methodologies, and social problems, is designed to provide students with both a basic understanding of the relevance of sociology in examining and solving complex human and social problems and with specific skills useful to those who seek careers in social service agencies, public service and social policy, applied research organizations and related professional settings. In addition, the Program offers special course tracks, initially in criminology/corrections (and by 1985 in medical sociology and health care delivery systems), which enable students to pursue specialized study according to their specific academic interests and career objectives. (Specialized study in alcohol addiction is also available through courses in the Program and in cooperation with the Alcoholism Treatment Services Graduate Program.) An important feature of the Program is its required field work—an internship that reflects both the academic and professional interests of the student. All internship placements are within public or private agencies, such as community-based correctional programs, criminal and juvenile justice agencies, or health care institutions, and may be either service- or research-oriented. The internship, in addition to affording the student an opportunity to develop his or her skills in a professional setting, helps provide a solid understanding of the relationship between sociological theory and social practice.

The Program seeks applicants whose career and academic interests are oriented toward applied areas, and especially those who have had prior experience in a human service organization and who are looking to increase or enhance their career opportunities. Scheduling of courses will be primarily—but not exclusively—in the late afternoon and evening hours so that students with employment and other obligations can progress at a convenient pace. Full-time students can expect to complete degree requirements within four semesters. Part-time student applicants will be admitted to the Program, provided they meet Graduate Admissions criteria. All students admitted to the Program must complete degree requirements within five years, including interruptions in degree progress due to leaves of absence. Students with exceptional circumstances may petition the Graduate Program Committee for an extension of this time limit.

# Applied Sociology

### Facilities

A range of computational resources is available in the Graduate Program in Applied Sociology. Students have access to the combined power of two CDC CYBER mainframe computers (Models 175 and 720) and a Harris 100 minicomputer. Over 120 terminals provide interactive access to the CYBER and Harris systems. A terminal is also available in the Department for student and faculty use. SPSS, BMDP, and other interactive and special purpose statistical packages are supported. The University's expanding microcomputer facilities include a microprocessing laboratory with 10 Apple II's. The Department also maintains in its statistics laboratory a number of calculators for limited computational tasks.

In-depth workshops provide training in the use of the computers and available packages. In addition to the Department's own faculty, experienced consultants and three professional Data Analysts provide assistance to computer users.

These computational resources are complemented by extensive social science data archives, and ongoing social science research projects. Through the Social and Demographic Research Institute at UMass/Amherst, students have access to data obtained from Gallup polls, surveys of prison inmates, observations of plea bargaining, records of Massachusetts court cases, and over 150 other studies of national and local populations. Through the University's Center for Survey Research, the Department maintains close ties to ongoing survey research projects.

The Department of Sociology also maintains a collection of specialized books and periodicals in criminology, corrections, addictions and other areas, which supplement resources in the University's main library. Close cooperation with numerous public and private agencies in Greater Boston also permits student access to technical library resources in a variety of fields useful in applied research, as well as to other technical research facilities.

### Degree Requirements

Candidates for the MA Degree in Applied Sociology must earn a minimum of 36 semester credits, at least 30 of which must be earned in courses offered in the Graduate Program in Applied Sociology. Special requirements include:

1. A minumum of a 3.0 GPA in all courses applied to the graduate degree.
2. Completion of the core courses in Applied Sociology (Ap Soc 600, 620, 641, 642, 650, 651).
3. Completion of a minimum of two courses in one of the Program's Tracks (criminology/corrections and, beginning in 1985, Medical Sociology), as elected by the student.
4. Successful completion of the special field work course (Ap Soc 698), which entails a field work/internship component and a Master's Paper under the supervision of the student's faculty advisor; or the completion of an accepted Master's Thesis (Ap Soc 699), supervised by a Thesis Committee. Both the Master's Paper or Thesis, submitted at the conclusion of the candidate's degree work, must show evidence of analytical thinking, competence in the substantive area under investigation, and applied methodology and/or theory. The required field work/internship component can be waived if the candidate has already had substantial experience in an appropriate field work setting, such as a social or human service agency. Regardless of previous field work experience, all students must complete the Master's Paper or Master's Thesis.

Not more than six semester credits in graduate courses earned at other colleges or universities, or six semester credits in approved upper-division undergraduate courses taken at the University of Massachusetts, Boston, can be applied to the candidate's degree in Applied Sociology. Students should consult with the Graduate Program Director regarding transfer graduate credits or UMass/Boston undergraduate credits prior to enrollment, if these are intended to satisfy degree requirements. Students are encouraged, however, to enroll in courses offered in other UMass/Boston graduate programs if they meet course prerequisites and if such courses contribute to the student's academic interests in applied sociology.

### Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Candidates for admission to the Graduate Program in Applied Sociology must supply evidence of ability to perform successfully at the graduate level. Such evidence will include:

1. A distinguished undergraduate record in sociology and related subjects, with at least a 3.0 GPA in sociology course work. Preference will be given to candidates who also have at least a 3.0 GPA in all undergraduate work completed in the last two years of study.
2. Successful completion of undergraduate courses in sociological theory, research methodology, and social statistics. Contingent upon other evidence, such as Graduate Record Examination scores (see below), or evidence of completion of equivalent courses, candidates admitted to the Program who are deficient in any of these areas may be required to take the Department's undergraduate courses as non-credit electives, to be completed not later than the end of the second semester of residence in the Program.
3. A statement not to exceed 1200 words by the applicant on his or her academic and career interests in applied sociology. The statement should specify the type of concentration the candidate wishes to pursue.
4. Graduate Record Examination scores, including results of the Advanced Test in Sociology, if available, may be submitted to the Graduate Program Committee as additional supporting evidence of the ability to undertake successful graduate study. Although not required, GRE scores are especially recommended for applicants who have not completed substantial course work in sociology at the undergraduate level.
5. Three letters of recommendation from individuals acquainted with the applicant's interests who are qualified to evaluate his or her potential for sustained graduate study in applied sociology. When possible, at least one of these letters should be from a professor with whom the applicant is studying or has studied.

# Applied Sociology

**Ap Soc 600 Human Services as Complex Organizations**
Staff
The course will acquaint students with studies of complex organizations that throw light on decision-making and conflict in the setting of formal organizations. Students will study how policies emerge and how they are translated into action. They will study research illuminating the nature and functions of rules, the initiation and consequences of political processes, the role and problems of "street-level" bureaucrats, and the impact of social, political and economic conditions on organizational behavior. Theories and concepts will be applied to human service organizations and their distinctive features will be discussed.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 620 Contemporary Social Problems In Historical Perspective**
Staff
An analysis of theories to explain the historical development of social problems. Theories include Marxian and non-Marxian analyses, micro- and macro-theoretical approaches such as functionalism, conflict, interactionism and deviance perspectives. Special attention given to the application of theories for the understanding of such contemporary social problems as unemployment and poverty, problems of urban communities, inter-group conflict/relations, individual deviance and others.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 621 Social Psychiatry**
Staff
Sociological analysis of psychiatric theories and practices, examination of the effect of social structure on the construction, and diagnosis and treatment of mental disorders.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 622 Comparative Approaches to Deviance and Social Control**
Staff
This course will consider the relation between deviance and societal development, concentrating on the effects of modernization, urbanization and industrialization on definitions of deviance and on the incidence and control of various kinds of deviant behavior. Methodological problems of cross-cultural comparison will be addressed, and comparative material on violent crime, juvenile delinquency, prostitution, alcoholism and other types of deviance will be drawn from Western Europe, the Soviet Union, Asia, Africa, the Middle East, and Latin America.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 641 Social Policy I**
Staff
An in-depth examination of major factors shaping social policy, including historical antecedents, public and private sectors, the interaction of social policy, economy and politics, and how issues become defined as social problems.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 642 Social Policy II**
Staff
A continuation of Ap Soc 641 with special emphasis on problems and issues in implementing social policy, its impact on both recipients and non-recipients of services, and principles of social policy analysis and research. Special attention also given to selected problem areas, such as income-maintenance programs, manpower policy, race and ethnic relations, crime and delinquency, and health-care programs.
*Prerequisite: Ap Soc 641 or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 650 Methods of Information Gathering, Analysis and Application I**
Staff
Focuses on methods of collecting, analyzing and reporting information about social service and other programs. Course requires students to conduct exercises that will give them first-hand experiences in various approaches to data-collection and management. Emphasis also placed on analyzing social science documents, using the approaches of case study, comparative research, survey research and field experiment.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 651 Methods of Research II**
Staff
A sequel course to Ap Soc 650 emphasizing the ways in which research can contribute to the development, administration, implementation and operation of social programs. Students will conduct three kinds of studies: a study oriented toward program design, a study aimed at helping program administrators, and a study on program evaluation.
*Prerequisites: Ap Soc 650 or equivalent and permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 653 Computer Applications in Social Analysis**
Staff
An advanced course in techniques and logic of quantitative data analysis for social science students and practitioners. Prior exposure to research methods assumed, but relevant issues in problem formulations and data collection reviewed. General overview of computers; fundamentals of data reduction and processing. Analysis of survey data throughout the course using statistical packages. Final research paper required.
*Prerequisites: Soc 351 (or its equivalent), graduate standing and permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 655 Evaluation Research**
Staff
An advanced course in the theory and practice of evaluation of public policy and social service programs for social science students and practitioners. Basic knowledge of research methods is assumed, but relevant issues in research design and implementation will be reviewed. General overview of evaluation theory and landmark evaluation studies. Analysis of commonly used evaluation models and of practical and political issues involved in design and implementation of evaluations. Design of an evaluation of a social agency program required.
*Prerequisites: Soc 351 (or its equivalent), graduate standing and permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 658 Theory and Practice of Interviewing**
Staff
Theory and practice of interviewing for research, fieldwork and social services. Focus includes sociological perspectives on face-to-face interaction, the role of the interviewer in various settings, and basic interviewing skills. Practice interviewing required.
*Prerequisite: Graduate standing or permission of instructor.*
3 Credits

**Ap Soc 680 Current Issues In Medical Sociology**
Staff
This variable content course will focus on selected topics in the study of health services and their client populations. The format will reflect current public and professional concerns and will be responsive to the specific interests of class members.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

# Special Education

## Applied Sociology

**Ap Soc 690 Advanced Seminar in Applied Criminology I**
Staff
An intensive seminar on contemporary theories of crime and delinquency and their application to applied contexts, including prevention and control programs, court diversion projects and community-based corrections, institutional settings and parole. Special attention given to social policy implications and to basic methodological problems in conducting research in criminal and juvenile justice.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 691 Advanced Seminar in Applied Criminology II**
Staff
An intensive seminar on the legal, ethical and practical considerations in criminology and corrections, including the nature of crime and criminal, statistics on criminal and delinquent behavior, the prison as a complex organization, analysis of correctional innovations and theories of rehabilitation. Analysis of important empirical studies with special attention on problem-selection and methodology.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3 Credits

**Ap Soc 696 Independent Study**
Staff
This course involves an in-depth study of a particular topic according to the student's interests. Independent study projects are expected to make an important contribution to a student's training in applied sociology. All projects are under the supervision of a faculty advisor, who is responsible for guiding and evaluating the student's work. An application and detailed proposal must be submitted to the Graduate Program Director not later than two weeks before the end of the semester previous to that in which Ap Soc 696 is to be taken. Permission to enroll can only be given by the Graduate Program Committee, which reviews all proposals and grants approval.
*Prerequisites: Graduate standing and permission of the Graduate Program Director and Committee.*
Hrs by arrangement
3-4 Credits

**Ap Soc 697 Special Topics**
Staff
An advanced seminar on selected topics in applied sociology. The course content and credit will vary according to topic. Details on special topics courses are announced during the advance registration period.
*Prerequisite: Graduate standing or permission of instructor.*
3 Lect Hrs
3-6 Credits

**Ap Soc 698 Field Work and Graduate Seminar in Corrections**
Staff
Intensive field work and/or internship in correctional or related research setting jointly supervised by faculty and agency-based staff. Placements made according to student interest and internship availability. Course seminars address issues and problems in field work and agency research, applications of sociological theory and research in corrections, professional ethics in agency work, and operation of correctional-related social services. This course provides the context for preparation of a Master's Paper required for the MA degree in applied sociology.
*Prerequisite: Graduate standing or permission of instructor.*
Hrs by arrangement
6-9 Credits

**Ap Soc 699 Thesis Research in Applied Sociology**
Staff
Supervised thesis research open to students who elect the Program thesis option. The thesis research is conducted under the supervision of a faculty committee consisting of a primary faculty advisor and two additional faculty members, who are responsible for advising the student in preparing and carrying out the thesis project and for evaluating and judging its acceptability.
*Prerequisite: Permission of the Graduate Program Director and Committee.*
Hrs by arrangement
6-9 Credits

**Faculty**

**Perry Davis**, CAGS, *Assumption College*, Rehabilitation Counseling, Emotionally Disturbed and Mentally Retarded Special Needs Student

**Ronda Goodale**, PhD, *Boston College*, Bilingual and Bicultural Special Education, Assessment and Remediation, Program Evaluation

**Linda Johnson**, MS, *Simmons College*, Moderate Special Needs

**Varda Konstam**, PhD, *Fordham University*, Behavioral Management, Consultation, Counseling

**Glenn Mitchell**, MEd, *Lesley College*, *Practicum Supervision, Program Evaluation and Curriculum*

**Doris Norman**, EdD, *Boston University*, Assessment and Remediation, Practicum Supervision

**Julia Roberts**, MS, *Emerson College*, Communication Disorders, Speech Pathology and Audiology

**Mahesh Sharma**, MS, *Northern University*, MS, *Rajasthan University*, Mathematics

**Samuel E Toto**, EdD, *Boston University*, Special Education Administration, Consultation

**The Programs**

The graduate Programs in Special Education offer a comprehensive course of studies leading to Certification in Generic Consulting Teacher (all levels), Certification in Teacher of Children with Moderate Special Needs (N-9) (5-12) and/or the Master of Education in Special Education. Through courses and practicum, the programs afford teachers, special educators and other related specialists an opportunity to serve special students in a variety of settings including resource rooms and substantially separate classrooms. The programs stress the integration of theory and practice.

**Degree Requirements**

Candidates for the MEd in Special Education must complete 42 credits of graduate work. Candidates typically fulfill the 30-credit requirement for certification in either Generic Consulting Teacher (all levels) or Teacher of Children with Moderate Special Needs (N-9) (5-12) and take additional coursework in an area of concentration (Reading, The Gifted and Talented Student, Counseling the Special Needs Student, and the Bilingual Special Needs Student).

# Special Education

**Admission Requirements**

Please see the general statement of admission requirements for all Graduate Studies programs.

The MEd program in Special Education will admit those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript with generally at least an average of 3.0; 2.75 for those who wish only certification.
2. A satisfactory score on either the Miller Analogies Test, Graduate Record Examination or the TOEFL.*
3. Three letters of recommendation submitted by persons who are knowledgeable about teaching special needs students, who have worked closely with the applicant, and who have direct knowledge of the applicant's teaching skills.
4. An acceptable letter of intent detailing the applicant's goals, professional experience and reasons for applying to the University of Massachusetts at Boston.
5. A writing sample indicating the applicant's ability to write in a clear professional manner. This sample may be an assessment report or term paper.*
6. For Generic Consulting Teacher only, evidence of two years' successful teaching experience.
7. Massachusetts Certification in Elementary, Secondary, or Special Subject Area.
8. A satisfactory personal interview with a member of the faculty.

*Requirements 2 and 5 may be waived if the student already has the MEd or PhD degree in a related field.

**SpEd 602 Language and Cognition**
Staff
This course examines the normal development of communication and conceptual skills, analyzes diagnostic instruments for assessing deviations, and critiques a variety of classroom intervention strategies. Field-work component included.
3 Lect Hrs
3 Credits

**SpEd 607 Behavioral and Classroom Management**
Ms Mitchell
This course will identify major theorists, techniques and procedures for behavioral management within the classroom setting. Observational recording skills, contingency contracting, monitoring of behavioral progress will be presented. Focus will be on effective use of behavioral management techniques using the candidate's teaching experience.
3 Lect Hrs
3 Credits

**SpEd 624 Screening and Identification of the Special Needs Individual**
Ms Norman
Informal and formal assessment tools used in screening and identifying special needs individuals will be presented and critiqued. Candidate will be able to recognize student's strengths and weaknesses, identify student's learning style and identify any physical constraints to the learning process. Field-based assignments are a requirement.
3 Lect Hrs
3 Credits

**SpEd 625 Clinical Teaching I—Elementary**
Ms Norman
The student will be exposed to the major causes for difficulties in reading and spelling and perceptual motor functioning (N-9). A description and evaluation of a variety of teaching approaches and methods and materials used in teaching special needs students (N-9) in the above areas will be covered. Attention will be given to matching appropriate methods of teaching to the student's learning style. The mechanics of writing an effective IEP will be addressed.
3 Lect Hrs
3 Credits

**SpEd 626 Clinical Teaching II—Elementary**
Ms Goodale, Mr Sharma
The student will identify and describe the major causes for difficulties in the content areas, writing and mathematics (N-9). A description and evaluation of a variety of teaching approaches and methods and materials used in teaching special needs students (N-9) in the above areas will be covered. Attention will be given to matching appropriate methods of teaching to the student's learning style. Career awareness programs and social skills training will be addressed.
3 Lect Hrs
3 Credits

**SpEd 627 Clinical Teaching I—Early Childhood**
Ms Mitchell
Theoretical basis of early intervention for young children with special needs (ages 3-7) examined along with implications of PL 94-142 and Chapter 766. Normal developmental stages of young children are analyzed, together with their deviations, in the areas of cognition, perception, and language. Observational, assessment, and instructional techniques/materials are presented.
3 Lect Hrs
3 Credits

**SpEd 628 Clinical Teaching II—Early Childhood**
Ms Mitchell
Normal developmental stages of young children (ages 3-7), together with deviations, are explored in the areas of social-emotional development, motor skills, self-help skills, quantitative and problem-solving skills. Curriculum methods and materials are examined, with field-based observations required. The multi-disciplinary team approach is highlighted.
3 Lect Hrs
3 Credits

**SpEd 629 Consultation and Interpersonal Skills I**
Mr Toto
Moderate and generic teachers will demonstrate an understanding of the principles involved in consultation and interpersonal skills. Intervention strategies and interviewing techniques will be stressed. Dynamics of the team process, roadblocks to communication and analysis of a school system with subsequent in-service recommendations will be discussed. Moderate and generic teachers will have an opportunity to apply these learned skills while examining theory concurrently.
3 Lect Hrs
3 Credits

**SpEd 630 Consultation and Interpersonal Skills II**
Ms Goodale, Mr Toto
The course will focus on implementing effective strategies in working with parents of exceptional children. The special educator will become sensitive to the issues of parenting a special needs student and be able to establish a collaborative relationship with parents which maximally utilizes available resources.
3 Lect Hrs
3 Credits

# Special Education

**SpEd 631 Clinical Teaching I—Secondary**
Ms Goodale
This course will focus on the development of teaching strategies to be used with the secondary special needs learner in the basic academic skill areas. In addition, the critical issue of adolescent development will be integrated into the teaching strategies.
3 Lect Hrs
3 Credits

**SpEd 632 Alternative Strategies**
Mr Davis
This course will present an overview of the vocational assessment process and alternative vocational training programs for the secondary special needs learner. A field work component is included.
3 Lect Hrs
3 Credits

**SpEd 641 Developmental Patterns: Implications for the Special Educator**
Staff
Candidate will study the developmental patterns of children and adults with special needs in the physical, cognitive, perceptual and psychological spheres. The focus of the course is the habilitation and rehabilitation programming of individuals with special needs within the regular school.
3 Lect Hrs
3 Credits

**SpEd 690 Research Seminar in Special Education**
Ms Goodale
This course will include seminar presentations that address current problems and issues in special education. Student presentations will culminate in a research project.
2½-5 Lect Hrs
3-6 Credits

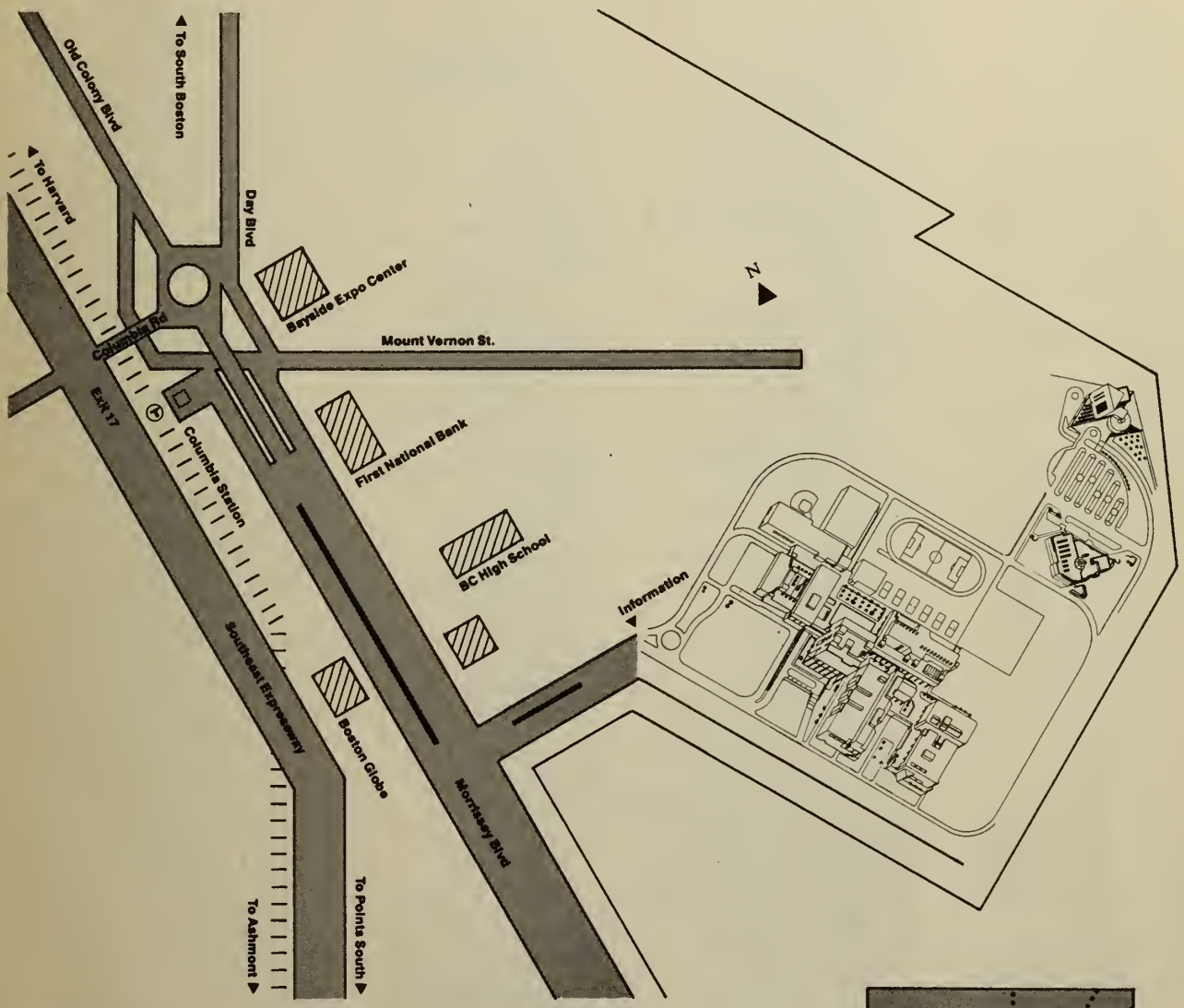
**SpEd 696 Independent Study**
Staff
Faculty-directed comprehensive course of study in a particular area of interest or a fieldwork experience. A detailed proposal of intent must be submitted to the faculty member prior to registration.
*Prerequisite: Permission of Program Director.*
*Hrs by arrangement*
*3-6 Credits*

**SpEd 697 Special Topics**
Staff
An advanced course involving intensive study of selected topics in special needs education. Course content will vary according to the topic and will be announced prior to registration.
2½-5 Lect Hrs
3-6 Credits

**SpEd 698A Moderate Practicum**
Ms Mitchell, Ms Norman
A supervised practicum experience with seminar component for trainees working with children who have been placed in 502.2, 502.3, or 502.4 program prototypes. Preregistration required one semester prior to enrollment.
6 Credits

**SpEd 698C Generic Practicum**
Ms Mitchell, Ms Norman
A supervised practicum experience with seminar component for trainees working with children who have been placed in 502.1, 502.2, or 502.3 prototypes. Preregistration required one semester prior to enrollment.
6 Credits

## Harbor Campus Map




### The Harbor Campus

The College of Arts and Sciences, the College of Management, the School of Nursing, the Physical Education Program, and certain Institute for Learning and Teaching programs are located at the Harbor Campus, which is only three miles from downtown Boston and is easily accessible by public or private transportation.

From the north or west: Take the Southeast Expressway to exit 17. Turn left onto Columbia Road. Enter the rotary and take the first right (Morrissey Boulevard). Bear right of the traffic island, following the University of Massachusetts sign. Proceed past the Boston *Globe* building and Boston College High; turn left into the campus.

From the south: Take the Southeast Expressway to exit 18, near the Boston Gas tanks. Exit 18 leads to Morrissey Boulevard. Follow Morrissey Boulevard northward to the campus.

On the MBTA: Take the Red Line Ashmont train to JFK/UMass (formerly Columbia) station. A free shuttlebus will carry you from the "T" parking lot to the campus. MBTA buses following Route 16B also stop at the campus.

Campus parking facilities: Indoor space is available for 1,575 cars.

### The Downtown Center

The University's Downtown Center, home of the College of Public and Community Service and certain Institute for Learning and Teaching programs, is at 100 Arlington Street in Park Square, one block from the MBTA Green Line Arlington station. A free shuttlebus service connects the Harbor and Downtown campuses.

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Graduate Studies
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